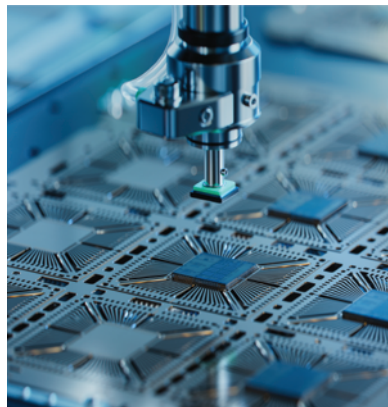
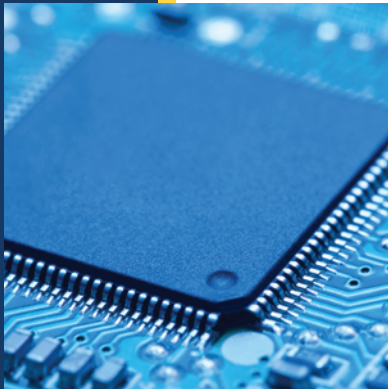


# LMS Pharma/Professional

REAL TIME MONITORING SOFTWARE



## Operators Manual



# **Lighthouse Worldwide Solutions**

## **LMS Pharma/Professional 8**

Real Time Monitoring Software

## **Operators Manual**

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248083495-1 R4

## About This Manual

This manual describes LMS Pharma/Professional monitoring systems. These monitoring systems are designed to download and analyze data from Lighthouse Apex, REMOTE, SOLAIR and HANDHELD Particle Counters, 32 Position Manifold Controllers and third-party environmental sensors.

### Audience

This manual is written for users who want to monitor the conditions in their cleanroom or environment.

If the user needs additional or expanded monitoring capabilities or a multi-user monitoring system, please call a Lighthouse Worldwide Solutions sales representative as 510-438-0500 for information about the full-scale Lighthouse Monitoring System (LMS).

### Additional Help

For more information about LMS Pharma/Professional, contact:

Lighthouse Worldwide Solutions.

Service and Support

Tel: 800-945-5905 (USA Toll Free)

Tel: 541-770-5905 (Outside of USA)

Email: [techsupport@golighthouse.com](mailto:techsupport@golighthouse.com)

Website: <https://www.golighthouse.com/en/product-support-request/>

### Text Conventions

#### Note and Warning

**Note:** A note appears in the sidebar to give extra information regarding a feature or suggestion.

**Warning:** A warning message appears that doing something incorrectly could result in personal injury, damage to the instrument or loss of data.

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## SOFTWARE PROGRAM: LMS Pharma

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## Overview

### LMS Pharma/Professional

The LMS Pharma/Professional monitoring system collects displays and analyzes data for all phases of pharmaceutical operations. It provides automated alarm, notification, data viewing, reporting, and auditing compliance with 21 CFR part 11 and EU GMP Annex 11 compliance.

Designed for secure facility monitoring with high-reliability, LMS Pharma/Professional integrates robust and comprehensive security with system-wide data redundancy in an intuitive and easy-to-use Graphical User Interface (GUI).

Real time and historical data can be securely viewed and analyzed in maps, trend charts (graphs), data tables and fully customized reports, with full alarm notification, acknowledgment and reporting capabilities.

Integral backup and powerful redundancy support help systems running LMS Pharma/Professional to operate smoothly and continuously. The software's flexible architecture offers customized options and allows for easy future expansion.

Strong support for a wide range of industry standard platforms and protocols allows LMS Pharma/Professional to seamlessly integrate with existing equipment, control systems and IT environments.

### Basic Concepts

**Instrument:** An Instrument is typically a Lighthouse particle counter. LMS Pharma supports receiving data from Apex Remote, Apex Remote with Pump, ApexZ, SOLAIR, REMOTE, HANDHELD and the Lighthouse 32 port Manifold Controller. Instruments are identified by their model.

**Data Type:** Describes the kind of data collected. For particle counters, this is the micron size of the particle; for environmental sensors, this is the kind of analog sensor (i.e., air velocity, temperature, etc.) used.

## LMS Pharma Features

### Real Time Data Collection

- Allows users to configure and collect real time data from a variety of instruments, depending on the license purchased.
- Designed for use with Lighthouse instruments such as the Apex, SOLAIR, HANDHELD and REMOTE Particle Counters, Manifold Controllers, Remote Active Count & third-party environmental sensors
- Buffered data refers to data stored within particle counters or similar devices during periods when communication with the controlling computer (software) is interrupted.
- In such cases, the instrument continues to collect and store data in its internal memory at its regular sampling intervals. Once communication is re-established, this buffered data is transferred to the data collection software (e.g., Particle Counters) and the LMS Pharma/Professional system (e.g., via the WAGO controller).
- The buffered records retain their original timestamps from the moment of collection, ensuring accuracy. When this data is transferred into the LMS Pharma/Pro database, it can be included in reports that identify whether the data points were within normal operating conditions or in an alarm state at those times.
- In the reports, any data labeled as “buffered” is accurate and timestamped accordingly. However, it is important to note that “buffered” data was not recorded into the database in real time. Despite this, the reports generated will show a complete sequence of timestamps, indicating that no data points were missing. Within these reports, the “Data Origin” field will typically indicate the source of the data as either “I/O”, “Calculated”, or “Buffered”.

## Particle Count Options for 1.0 CFM Particle Counters

### 1.0 CFM - One Sample Every Minute

These sensors measure one cubic foot of air per minute (28.3 liters). This is considered real-time, raw cumulative data, with a new particle count reported every minute.

### Calculated Mode: Rolling Sum for Cubic Meter (1-Minute Intervals)

In this configuration, the system continuously adds each 1-minute cubic foot sample into a 36-sample rolling buffer. Once the buffer is full, the summed particle count is displayed as a calculated cubic meter value.

 **Note:** Other LWS Calculation options are available upon request.

## Particle Count Options for 0.1 CFM Particle Counters

### 0.1 CFM - One Sample Every 10 Minutes

These sensors collect one cubic foot of air every 10 minutes. As with 1.0 CFM sensors, this is treated as raw, real-time data.

### Calculated Mode: Rolling Sum Options for 0.1 CFM Sensors

- **Cubic Foot Summation:** Accumulates 10 one-minute samples to form one cubic foot. Alarms may be triggered if a spike occurs in any of the 10 samples.
- **Cubic Meter Summation:** Accumulates 360 one-minute samples to represent a cubic meter. Alarming is only possible after a full set of 360 samples is available.

 **Note:** Other LWS Calculation options are available upon request.

## Rolling Aggregate Data: Summation Workflow

### Definitions

- **Live Data:** Collected while instrument is connected and LWS Point Driver is active.
- **Buffered Data:** Captured during communication outages.
- **Cached Data:** Temporarily stored in memory for use in rolling aggregate calculations. (Max 100 records; stored in the Point Driver.)

 **Note:** Buffered Data is still not included in cached aggregation. When such records are received, they are excluded from rolling calculations, and the next Live Data record resumes summation.

## Measurement Methods for Particle Counts

A particle counter measures particles across defined size channels in air samples of 28.3 liters (1 cubic foot) per minute. LMS Pharma supports multiple methods for logging this data, which can be used simultaneously per instrument depending on specific monitoring requirements.

### Method 1: Particles per Cubic Foot (ft<sup>3</sup>)

Counts are displayed per 28.3-liter (1 ft<sup>3</sup>) samples, updated every minute.

- Advantages: Immediate results and fast identification of excursions.
- Use Case: Ideal for pairing with the Rolling Sum method for traceability.

### Method 2: Normalized Particles per Cubic Meter (m<sup>3</sup>)

Counts are mathematically converted from ft<sup>3</sup> to m<sup>3</sup> by multiplying by 35.3.

- Advantages: Instant alarm triggering small events.
- Limitations: May cause false positives if low ft<sup>3</sup> values are exaggerated during conversion.
- Use Case: Biosafety cabinets and immediate response zones where fast visibility is prioritized.

### Method 3: Rolling Sum Particles per Cubic Meter (m<sup>3</sup>)

This method sums 36 consecutive ft<sup>3</sup> values (~1 m<sup>3</sup> over 36 minutes) using a FIFO (first-in, first-out) buffer.

- Advantages: Reflects actual sampled volume; avoids false alarms from single low spikes.
- Limitations: Alarms may take up to 36 minutes to clear.
- Options:
  1. Wait until 36 full values are collected before reporting.
  2. Begin reporting partial sums immediately (with lower accuracy), allowing alarms during startup.

## Easy and Intuitive User Interface

- Multi-level, “drill-down” maps.
- Real-Time and Historical Trend Charts (Graphs) & Data Tables.
- Direct-action real-time data views provide point-and-click data viewing, analysis, and response.
- Fast data grouping and refinement.
- Copy and paste data directly into Microsoft Excel® and Word®.
- More than 20 Reports.
- Uses Window’s regional settings to display localized dates and decimal numbers.
- Multi-language support available.

**Full Alarm Management and Acknowledgment**

- Email and SMS alarm notifications
- Alarms sent through E-mail & SMS
- Optional digital phone notification module

**Easy Automation & Control Systems Integration**

- Industry standard protocols including Siemens S7, Modbus, Soap XML, OPC DA, OPC XDA, OPC HDA, OPC A&E, OPC UA, ODBC (SQL) and more
- Supports a wide range of sensors, PLC's and instruments

**Seamless Integration with Existing IT Architecture**

- Virtual machine option
- Works with leading enterprise backup programs

**Reporting, Control and Customizable Operations**

- Over 20 standard reports are immediately available.
- Customize or create reports using industry standard Crystal Reports®
- Sophisticated scheduling & control capabilities
- Full Localization for operators and administrators
- Optional Batch/Lot recording and reporting module
- Reports can be displayed on screen or exported to formats including .XLS or PDF

**Industry-leading Security**

- 21 CFR Part 11 and EU GMP Annex 11 Compliant
- Full audit trail with customizable views & reports
- Standard three user account levels for customer use: Operators, Power Users and Administrators.
- Fully integrated user and group security including Password Aging, Inactivity Logout and Electronic Signatures
- Secure database with robust data security
- LDAP/LDAP SSL Active Directory Groups
- Kiosk mode for secure production use

## Comprehensive Backup, Redundancy and Fail-over

- Automated data collection fail-over and fail-back
- Full redundancy backup of all configuration and data
- Live Backup Functionality
- ViewX redundancy option allows remote viewing even when main server is down.

## LMS Software Architecture

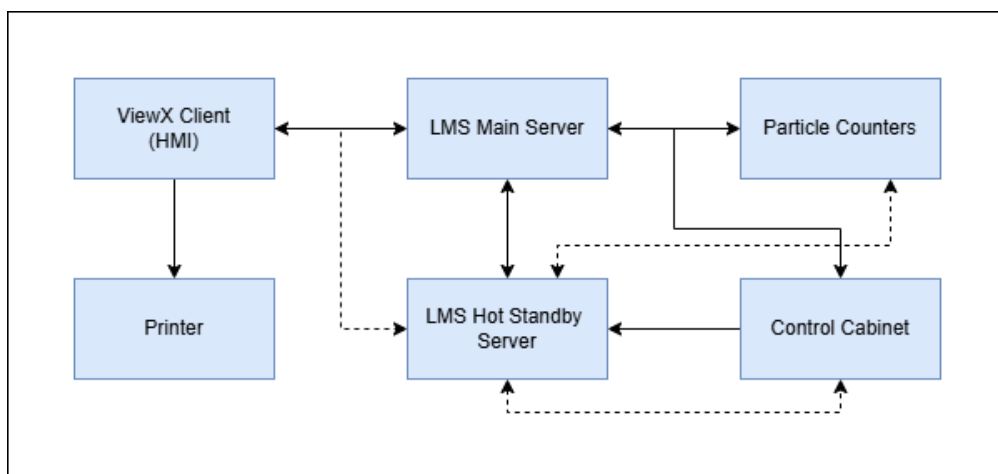
The LMS Software architecture is composed of four primary modules that communicate via local or network-based connections:

- **HMI** – A user-facing interface used for real-time monitoring and interaction (referred to as **ViewX Client** in LMS Pharma 8).
- **LMS Main Server and LMS Standby Server** – These act as both the **file-based database server with a data historian** and the **license server** for the LMS platform.

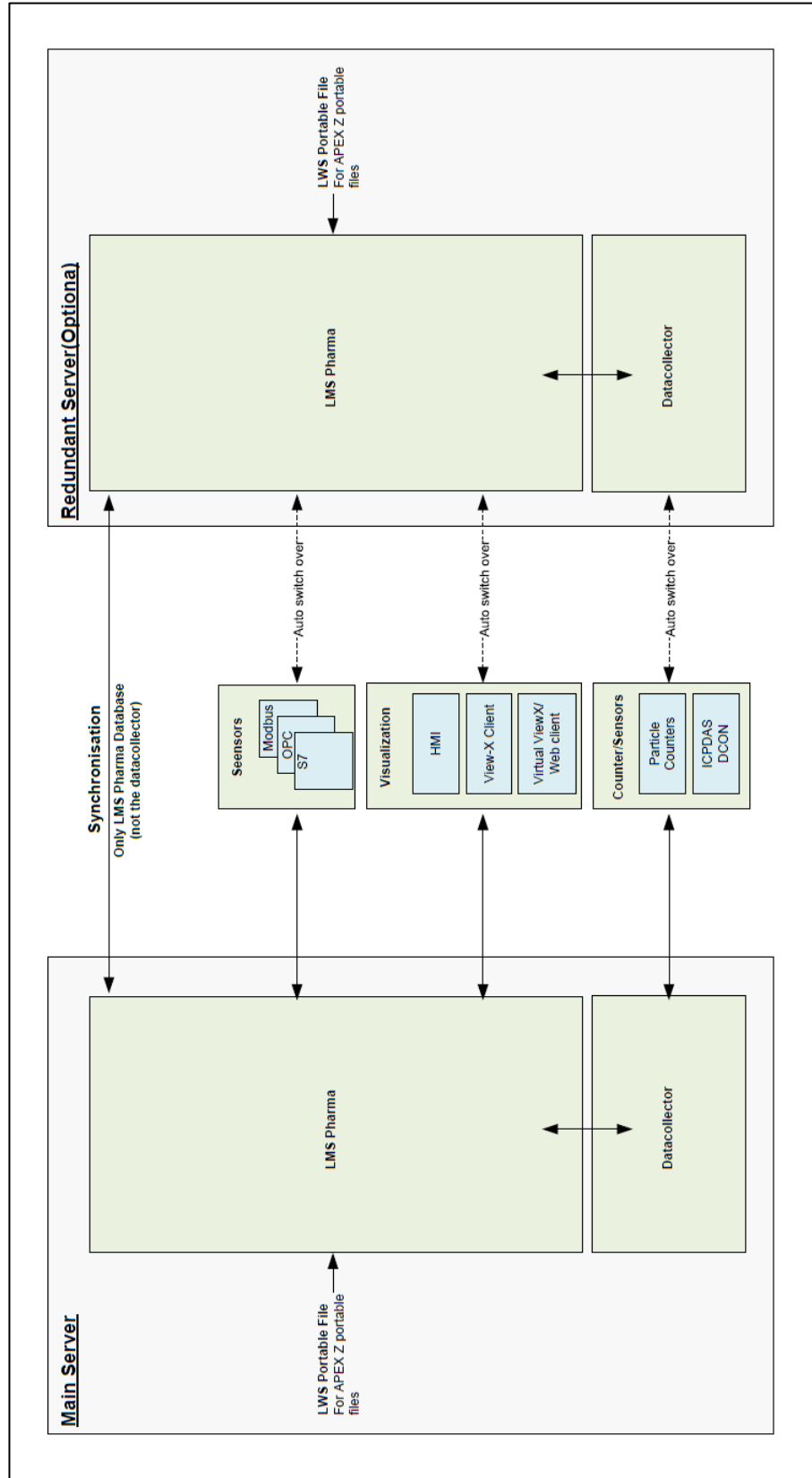
In this architecture, **only one system operates as the Main Server**, actively handling communication and data processing. The **Standby Server** remains in **hot standby mode**, continuously synchronized with the main database. It is designed to take over seamlessly if the Main Server becomes unavailable due to failure or shutdown.

The **HMI**, **Particle Counters**, and **Control Cabinet** always communicate with the currently active Main Server.

In the system diagram, dashed lines are used to indicate that these components will redirect to the Standby Server **only when it assumes the main role**, ensuring continuity and high availability in critical monitoring environments.



## LMS Pharma Version 8 Communication Overview



## Features

### Maps

LMS Pharma users can display real time maps. Each map can display multiple data sets and/or instruments on a map of the facility or area. Multiple levels of maps are supported, allowing users to drill down into different areas of the facility. If alarms are enabled, the user's maps will be updated with the current alarm or warning status.

### Data List

LMS Pharma users can view the current real time data and status of data filtered by location and/or data type.

### Trends

The Trend view allows the user to see data for a specified date/time range displayed as a line trend. Each data set is represented with a different color. The trend can be printed or exported to PDF files. Trends can be rolling or for a fixed date and time.

### Reports

A displayed report can be printed or exported to formats supported by Crystal Reports. Users can utilize the standard reports included in the software or use Crystal Reports to create their own. A full version of SAP Crystal Reports 2016 or 2020 (not included) must be installed to create custom reports.

### Process

The Process tab is an optional view that users can purchase. The Process view allows the user to display custom data, configuration or control points for their system or facility.

### Alarm Status and Alarm Acknowledgement

LMS Pharma administrators can configure alarm triggers to display a warning or alarm when certain conditions occur. Conditions can be programmed for locations or instruments. When alarm triggers are enabled, the bottom section of the LMS Pharma window bar will show the current alarms. The overall status of the system or room will be shown on the map. Status levels include Stale, Sensor Fault, Flow Error, Alarm, Warning Normal, Unutilized, Disabled, Alarms Disabled and Portable.

Administrators and Power Users can acknowledge alarms and add notes which are recorded in the event log.

### User Accounts

LMS Pharma allows Administrators to create, modify and delete other user accounts. Accounts may have a password, and the password can be set to expire after a given amount of time. LMS Pharma can be configured to automatically log users out after a programmable period of idle time.

## Standard Redundancy

LMS Pharma has very robust support for redundancy. LMS Pharma supports double redundancy. With double redundancy, 2 machines mirror each other and provide a “hot standby”. If the main machine goes down for any reason, the backup machine takes over.

## Full Redundancy

LMS Pharma provides redundancy for the entire system, including the complete system configuration, user interface and data. In addition, the view clients support redundancy, detecting when a server is down and automatically switching to the redundant server, providing seamless redundancy for end-users (not just data backup).

## Non-Standard Redundancy

LMS Pharma also has options for 2 other types of duplicate servers:

Performance Servers: These servers duplicate the main server, but do not have the ability to perform a hot standby to take over data collection if the main server goes down. These servers can be used to reduce the load on the main server and provide a duplicate of the main server in a very distant location, such as another state or another country.

DMZ Servers: These servers provide LMS Pharma data outside a firewall. DMZ Servers receive data from the main server, but do not send any traffic back through the firewall. This provides a secure way to publish LMS Pharma data to the public Internet even in very secure IT environments. Note with this functionality a user cannot change or trigger actions in LMS Pharma/Professional.

## Remote Clients

LMS Pharma supports desktop and web clients (Virtual ViewX clients). Desktop clients are standard applications installed on a Windows PC. The desktop client application is relatively lightweight, running without issue even on a PC with less than 4GB RAM. Web clients can access LMS Pharma as a web page through modern web browsers. Client computer software installation is not required to view LMS Pharma as a web page. Web clients have full access to the LMS Pharma user interface, including acknowledging alarms, manual data entry, etc. Server configuration cannot be done through a web client. LMS Pharma web clients are supported on modern web browsers like Google Chrome and Microsoft Edge. The standard LMS Pharma package comes with desktop or web for 5 clients, per user choice. LMS Pharma licenses are provided via software keys, but hardware keys can be ordered if desired. LMS Pharma software keys support floating licenses.

## ViewX Clients

### ViewX (Thick Client)

The **ViewX Client** is a Windows-based desktop application (also known as a "thick client") that serves as the primary graphical user interface (GUI) for the LMS Pharma/Pro software. It can be installed on any compatible client computer connected to the network.

This application provides full functionality for system monitoring, interaction, and configuration—based on the logged-in user's security role. User permissions control access to database functions and system configuration tools, such as alarm thresholds, sensor management, and user administration.

Once installed, ViewX requires no additional maintenance on the client machine. It does not store any portion of the database locally. During runtime, display graphics are temporarily cached but continuously reloaded from the server to optimize bandwidth usage.

ViewX uses **client-server architecture** with **report-by-exception communication**. When a user opens a display:

- The server checks if the screen content has changed.
- If no change is detected, the cached display is used.
- Meanwhile, the server sends real-time data updates to the client as they occur.

 **Important:** Ensure the **PC region, time, and date format** match those of the LMS server and LMS user profile to avoid display or alarm timestamp inconsistencies.

## Virtual ViewX Client (Thin Client / Web Browser Access)

The **Virtual ViewX Client** is the web-based version of the ViewX interface, accessible through supported browsers such as Google Chrome, Edge, or Firefox. It allows secure, remote access to LMS Pharma/Pro from any internet-connected device without installing any client software.

This client supports real-time operational features, such as:

- Alarm viewing and acknowledgement
- Sensor status monitoring
- Basic control actions (based on permission levels)

All security controls—user roles, permissions, and passwords—apply equally to Virtual ViewX sessions, ensuring compliance and preventing unauthorized access.

 **Note on Redundancy:** In a dual (2x) Server setup; to ensure client-side redundancy, Virtual ViewX client licenses must be installed on both Server 1 and Server 2. In addition, a matching # of Virtual ViewX Clients (max 5 clients) must reside on both servers. When (6x) or more Virtual ViewX Clients are needed a 3<sup>rd</sup> server will be required. In a (3x) Server setup; only 1 Virtual ViewX Client license is required to be installed on Server 3. All Virtual ViewX Clients will be installed on Server 3.

Virtual ViewX Clients are commonly run on laptops for portability but are also supported on desktops and certain tablets. All browsers must be up to date and the client device must be connected to the corporate network (intranet) or internet. The web interface is powered by Microsoft IIS, which is integrated with the LMS software installation.

### Licensing Model:

Virtual ViewX uses a concurrent (floating) license model. The server manages the number of active users allowed. If a user closes the browser window without properly logging out, the license session may remain active, potentially blocking others from logging in.

 **Tip:** Always log out properly to release the license for the next user.

 **Reminder:** Match the PC's region and date format to the LMS server and user configuration.

## Security Overview

User access to both Thick and Thin clients is governed by a secure login with an electronic signature, which includes username and password.

Based on assigned permissions, users can:

- Modify alarm and warning thresholds
- Enable or disable sensors
- Manage user accounts
- Adjust system configuration parameters

This user-specific security model ensures traceability and system integrity in compliance with industry and regulatory standards.

## Getting Started

This chapter describes the LMS Pharma/Professional environment and the operating system requirements necessary to run LMS Pharma/Professional.

### Installation

LMS Pharma Data Server runs on Windows Server 2016, Windows Server 2019, and Windows Server 2022.

LMS Pharma Clients run on Windows 10 (64 bit) and Windows 11 x64.

To view the manual on-line, Adobe Acrobat Reader (Rev 9 minimum) must be installed.

### Data Server System Requirements

#### Supported OS:

- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

### Licensing

LMS Pharma includes a software license to protect the software. LMS Pharma will stop collecting data after 2 hours if the correct software license is not installed.

By default, a software license is included with each purchased copy of LMS Pharma.

## Startup

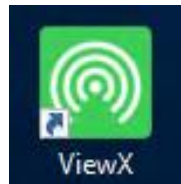
Once installed and the server is started, LMS Pharma/Professional is ready to collect data.

LMS Pharma/Professional includes two user applications:

- The ViewX application allows users to add and configure sensors as well as view data. The ViewX application can also be installed as a client on other computers.
- The Web Client (Virtual ViewX Client) user application allows users to view data. The View Client runs via a browser and can be used to view data from additional computers.

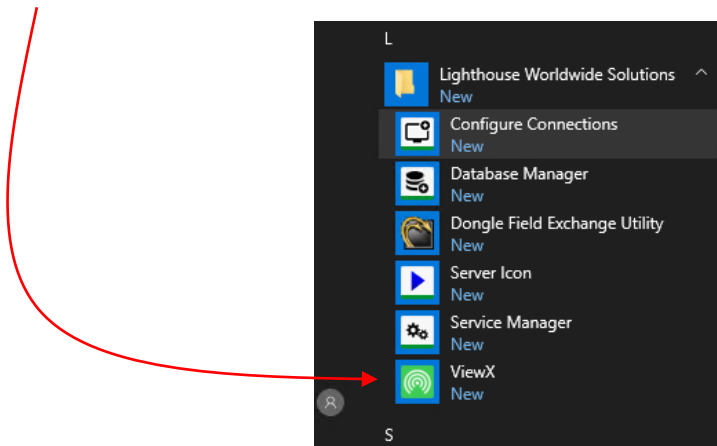
Once LMS Pharma/Professional is installed, launch LMS Pharma/Professional ViewX Client or the ViewX Client by double clicking their respective icons on the desktop.

**Note:** The LMS Pharma's data collection runs as a service on the server.



### LMS Pharma/Professional Icon - ViewX

Alternately, LMS Pharma/Professional user applications can be started by opening the Start Menu, Programs Menu and selecting LMS Pharma ViewX Client icon.

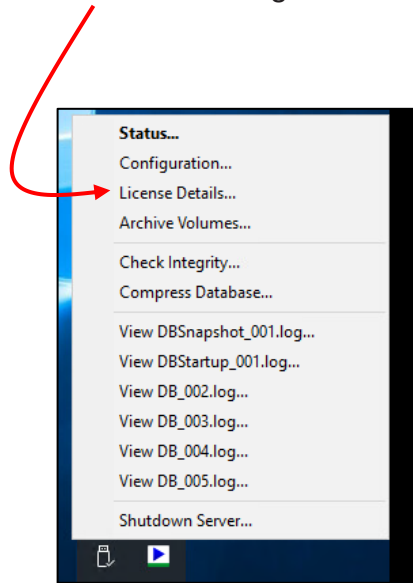


### Start Menu access to LMS Pharma/Professional

## Software License

When LMS Pharma/Professional's server starts it checks for a valid software license. If the software license is invalid, then the server will stop collecting new data after two hours. Users can see details of their LMS Pharma license by right clicking on the LMS Tray icon on the server and logging in as a User with Administrator rights.

After clicking on License Details a License Details window will appear.



**LMS Tray Icon**

The 'License Details' window displays the following information:

- License File:** Specify the location of the license file: C:\Program Files\Lighthouse Worldwide Solutic. License: Invalid, Licence Version: 0, Machine Id: 74FA8189-DD4023E1-AD0227B2-3E4A141C.
- Information:** Source: Dongle, Expires: 24/03/2021 12:00:00.000, Runtime: 160 hours, Support / Geo SCADA Version: up to 6.99, Site Id: (Quote this for support).
- Dongle:** Status: Valid, Id: 49553.
- Limits:** Database Points: 25000, ViewXs: 20, OPC Clients: 256, Data Access Clients: 256, Web Connections: 20.
- Drivers:**

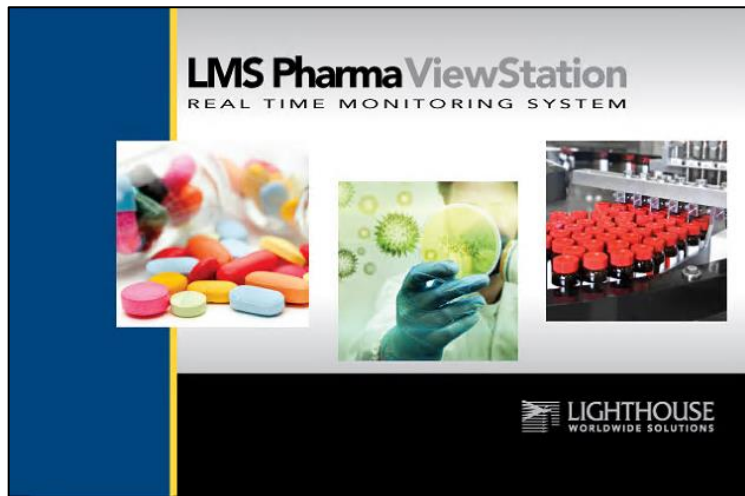
|                           |                  |                 |          |
|---------------------------|------------------|-----------------|----------|
| AdvancedEWS               | DNP3             | IEC60870Phoenix | NTMon    |
| AdvancedModbusLuffkinSAMS | DNP3eNET         | Kingfisher      | NTP      |
| AdvancedModbusSERPC       | DNP3SCADAPackx70 | Logic           | Odbc     |
| AdvancedOPC               | eDNAHistorian    | Mitsubishi      | Opc      |
| Aquis                     | FloBossDriver    | MitsubishiSlave | OpcxmlD  |
| CFX                       | Hilscher         | Modbus          | Pager    |
| CrystalReports            | ICMP             | ModbusSlave     | Random   |
| DDE                       | IEC60870         | MQTT            | RocPlusC |
| DF1                       | IEC60870Kema     | MQTTJSONSchemaA | SCADAP;  |
- Features:** Alarms, Main Standby.
- Dream Report:** Tags: 0, Web Clients: 0, Version Code: 0, Designers: 0, Feature Code: 0.

**LMS Pharma/Professional License window**

The license shown is a DEMO license and the server would stop collecting real time data 2 hours after the server is started.

## Splash Screen

After a successful login and depending on the version being used, the user will see the LMS Pharma/Professional splash screen as shown below.



### LMS Pharma/Professional ViewX Splash Screen

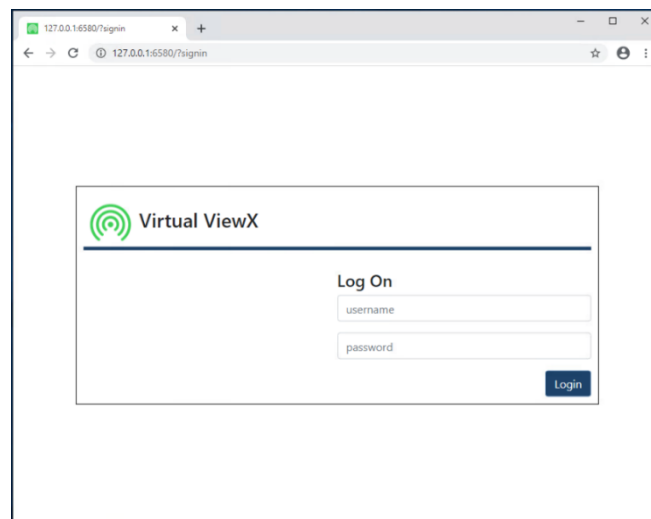
After the splash screen closes, the LMS Pharma/Professional ViewX or Web Virtual ViewX screen appears

### LMS Pharma View Client (no user logged in)

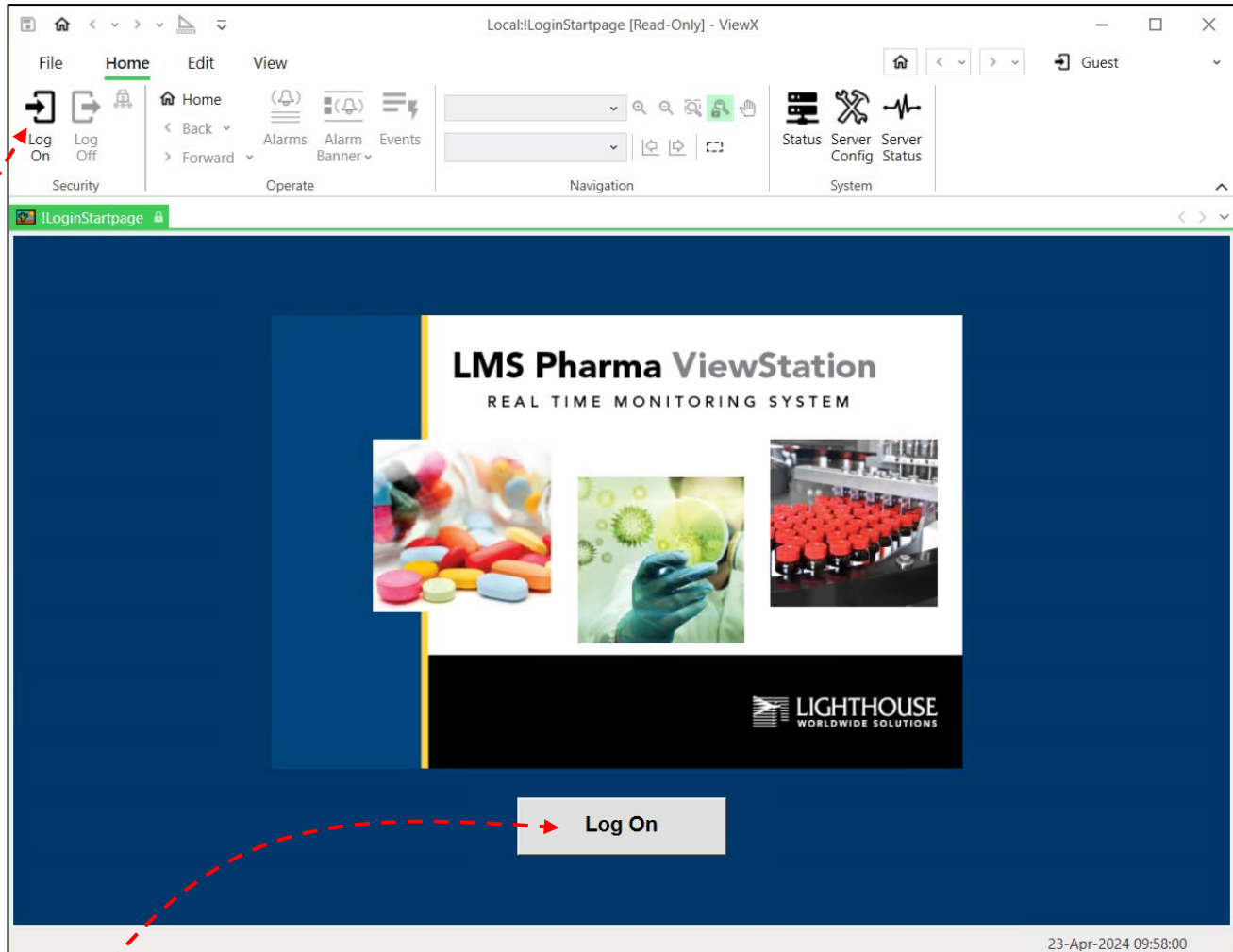
To view the data, select File and Log On from the menu. Users can login as one of the 3 types of users available for customers - Operator, Power User or Administrator.

**Note:** As soon as the server has started, data collection has started, whether a user has logged in or not.

**Note:** Unless otherwise stated, screen shots show the LMS Pharma/Professional Virtual ViewX Client running in a Web browser.



### LMS Pharma/Professional Web/Virtual ViewX Client (no user logged in)



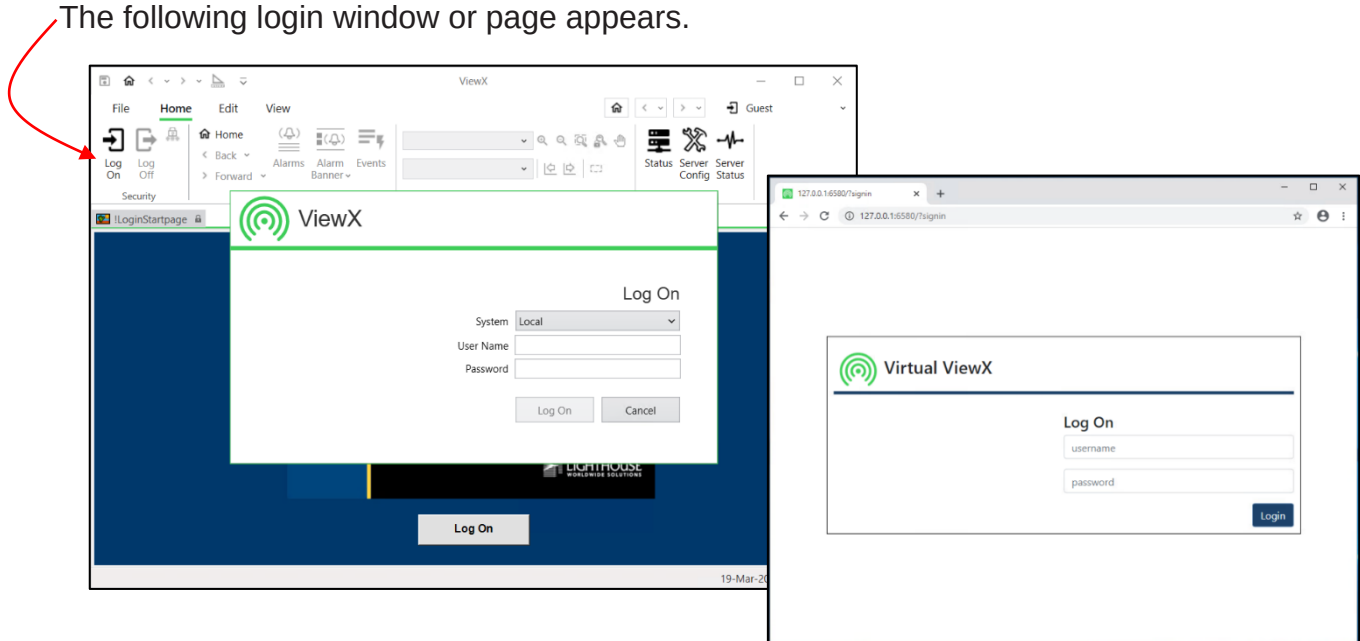
### LMS Pharma/Professional ViewX Client

To view the data, click on the Log On button on the screen or at the top of the menu. Users can logon as one of the 3 types of users available – Operator, Power User, and Administrator.

## Login Screen

To log onto an **LMS Pharma/Professional ViewX** application and view its screens, select File and Log On from the ViewX menu or if running the Web Client in a browser, click on the Log On tab.

The following login window or page appears.



To enter a login name via a touch screen, touch the > button next to the Username or Password fields to display the Keypad screen. Use the keypad to enter the user's name and password.

Once the user has entered a username and password, if applicable, click OK.

## Main Window

After logging in, the main LMS Pharma/Professional application window appears as shown below.



**LMS Pharma/Professional Main Facility Window**

**LMS Pharma/Professional** provides several different views of the data in the facility:

- A Main facility level view, which includes all data from all areas.
- Views of specific individual levels. A level may be a room or an area within the main facility view. Typically, each type of user (Operator, Power User and Administrator) will see a different default view of the system.

## Operator View

Operators will typically have permissions to view data for only one or more locations in the system.

Operator level accounts differ from other level accounts in that Operators will have only the following permissions:

**Note:** The name of the user logged in is displayed in the bottom right corner of the main window.

- Operators **can** view data only.
- Operators **cannot** acknowledge alarms.
- Operators **cannot** disable the alarm bell in the ViewX application.

*(To disable the alarm bell, login using another account.)*

## Power User View

- Power User accounts by default have permissions to view multiple locations and/or all the locations in the system including an overview of the system.
- Power User accounts have the following permissions: Acknowledge alarms; enable or disable alarms.
- Power User accounts do NOT have the following permissions: Change alarm limits; enable, disable points; add or remove users.

## Administrator Level View

Administrators have the following permissions:

- Permissions for all previous levels.
- Additionally, Administrators have permission to acknowledge alarms, enable and disable alarms, change alarm limits, enable, and disable points and add and remove users.

When logged in as an Administrator:

- By default, Administrators first see the main screen showing the whole facility and typically administrators can view all areas of the facility.
- Administrators view the database tree on the left side of the window when running the ViewX Application.

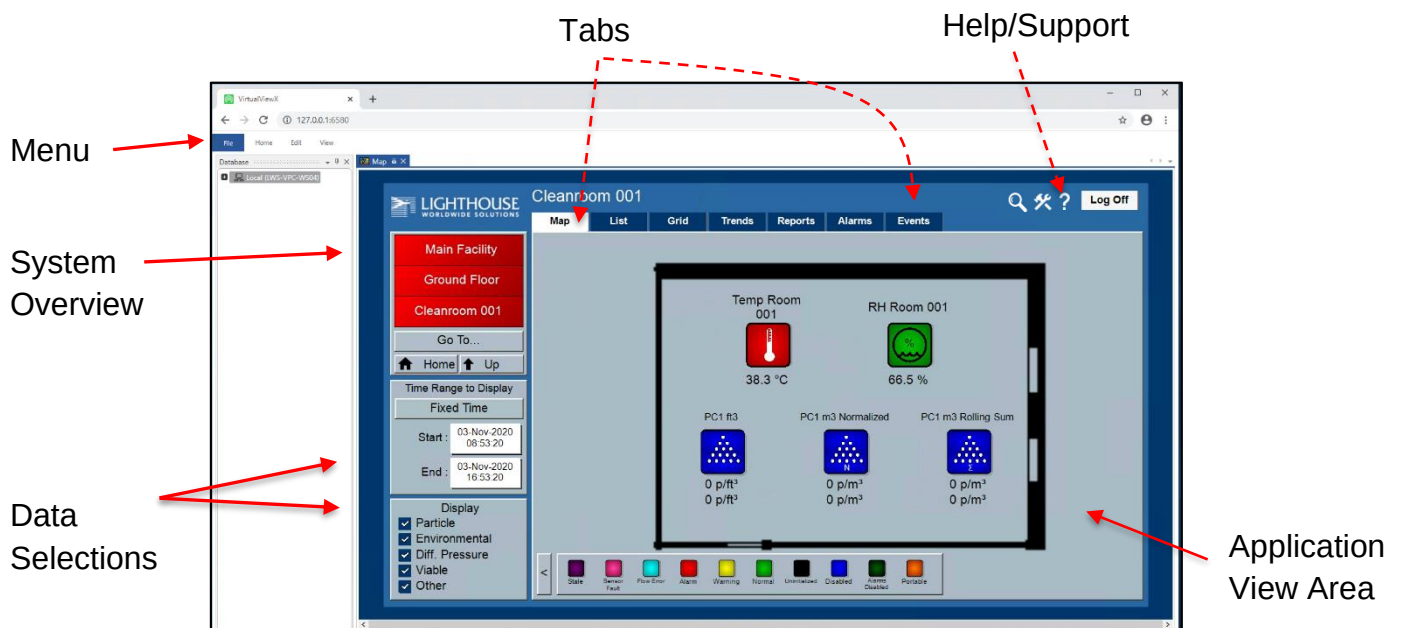
## Basic User Interface

The LMS Pharma/Professional user interface was designed to be easy to use and to be similar between the Web Virtual ViewX Client and the ViewX Client.

### View Client User Interface

When displayed through a browser, the main screen will display.

The application area shows a tab bar, a navigation section, and a data view area.



### Browser User Interface

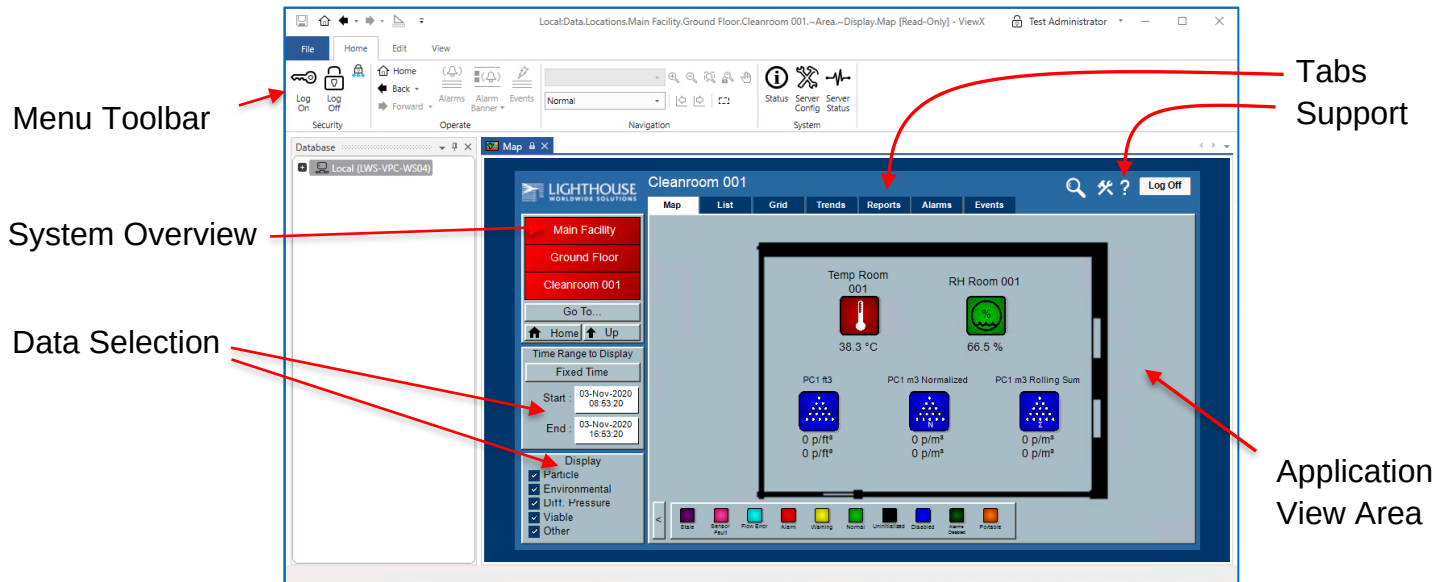
A system overview is available in the upper left corner of the Application view area.

The user can show different types of data in the Application View area by clicking on the different Application Tabs. The Web (Virtual ViewX Client) and ViewX Client contain application tabs for Maps, Lists, Grids, Trends, Reports, Alarms, Events and (optionally) Process.

In the Data Selection section of the user interface, the user can select time ranges and sensor data filters, and the data currently displayed in the application view area will update, where applicable.

## ViewX User Interface

When running the ViewX application, a few additional areas and items are available for the user. The ViewX application is split into three basic sections: the Application View area and navigation Tools (Menu, Toolbar, Favorites Panel, and Database Panel).



**ViewX User Interface**

## System Overview Section

The System Overview Section allows a quick means to navigate between locations in the system. When LMS Pharma/Professional is started, the System Overview Section will display the overall status of the current location.

On this map, users can click on areas of the map and zoom into that location or area. When a user clicks on an area of the System Overview, the System Overview will change to display the map of that location, and the application view area will update to display data for just that location.

At the bottom of the System Overview Section are three buttons – Go To..., Home and Up. The Go To button allows the user to navigate between locations available in the system. The Application View area and the System Overview will update to display the selected location. When a user has navigated to a sub location on the map, the Up and Home buttons will be enabled to allow the user to quickly navigate up one level in the map or jump to the home (overall map) view.

Locations or areas on the map will be colored to represent the highest status of that Location. For instance, if there are one or more alarms in a sub location, on maps that show that location, that location will be colored red to reflect the alarm condition.

## Application View Area

The Application View Area will display different types of data.

Clicking on a tab (Map, List, Grid, Trends, Reports, Alarms or Events) will update the Application View Area to display that type of data for the current location.

For instance, if the user is at the top location in their map and clicks the List tab then the Application View Area will display a list of all the data points in the system.

As another example, if the user clicks the Grid tab, then the Application View Area will update to display the grid of the current location.

## Support Button

Clicking on the support button (?) in the upper right corner of the Application data area displays support information. This information may be customized by the local distributor.

Support Button



## Support Information

## Navigation

### ViewX Ribbon

The following sections describe the Ribbon buttons available in the Web (Virtual ViewX) and the ViewX application.

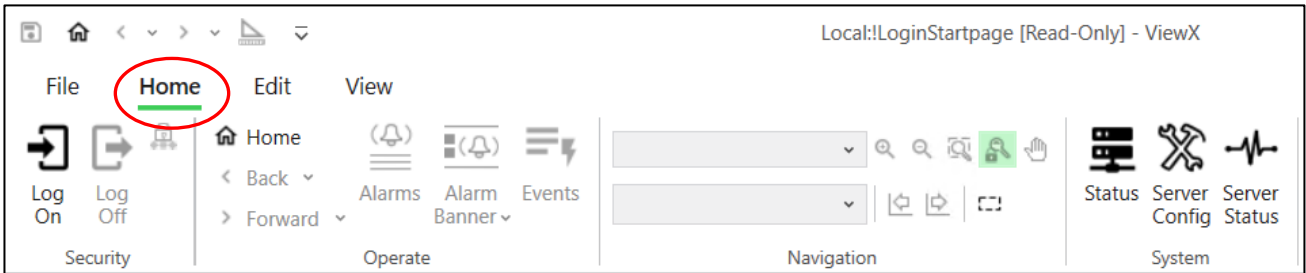
**Note:** A tool tip will appear describing the button if the user hover's the mouse over a toolbar button for a second.

The Ribbon buttons at the top of the ViewX window allow the user to navigate between views and implement actions on the current view.

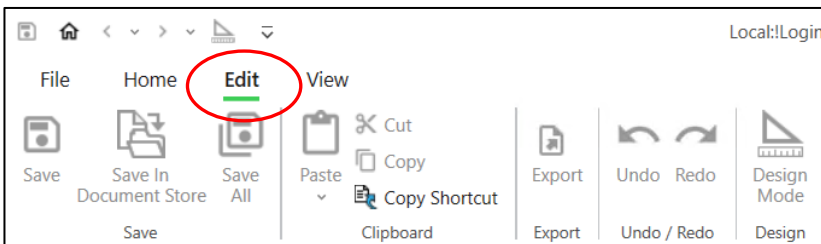
Not all buttons apply to all views. Ribbon buttons will be disabled for views that do not use them.

Operators will have access to the Ribbon buttons as shown below.

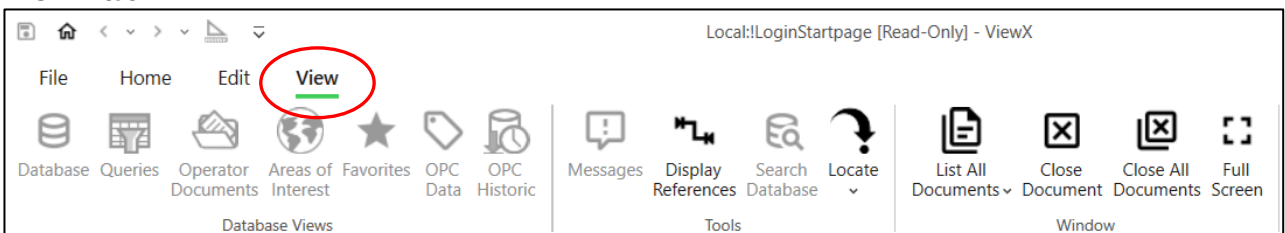
#### Home Tab



#### Edit Tab



#### View Tab



### ViewX Basic Ribbons

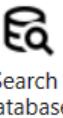
## Basic ViewX Toolbar Buttons/Ribbon

The following table describes the commands available on the ribbon for Operators using the ViewX application.

**ViewX Basic Ribbon Buttons**

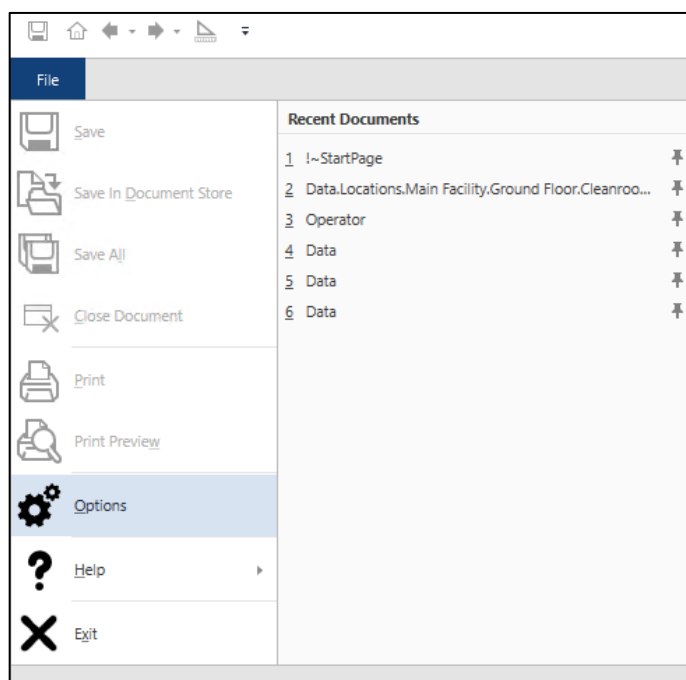
| Button                                                                                                | Command      | Description                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Log On           | Log On       | Display the Log On window to log on via a user account.                                                                                                                                                                                                                                                                                        |
| <br>Log Off          | Log Off      | When you finish your ViewX session or need to leave your workstation unattended, you should close any ViewX displays (such as Mimics, Trends, or Lists) that are currently open. You should then log off. This will prevent anyone else from accessing the system using your logon credentials once you have moved away from your workstation. |
| <br>Back ▾           | Back         | Click this button to re-display the most recently displayed view. With a pulldown menu you can choose a previous view.                                                                                                                                                                                                                         |
| <br>Forward ▾      | Forward      | Click this button to display the next previously displayed view. If the current view is the most current view, then this button will be displayed.                                                                                                                                                                                             |
| <br>Home           | Home         | Click Home to display the Home view, i.e., the Home Menu in the View Area.                                                                                                                                                                                                                                                                     |
| <br>Alarms         | All Alarms   | Switch the View area to displaying all current alarms in the system. This button is enabled for Super Users only.                                                                                                                                                                                                                              |
| <br>Alarm Banner ▾ | Alarm Banner | Display the Alarm Banner. Cannot be used for LMS Pharma/Professional                                                                                                                                                                                                                                                                           |

|                                                                                                           |                    |                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Events               | All Events         | Switch the View area to display all current events in the system. This button is enabled for Power Users only.                                                                                                                                    |
| <br>Status               | Status             | Opens a pop-up with the status of the LMS Pharma/Professional Server.                                                                                                                                                                             |
| <br>Server Config        | Server Config      | Opens the Server configuration settings for the LMS Pharma/Professional server. Only available for Administrators and on the LMS Pharma/Professional Server.                                                                                      |
| <br>Server Status        | Server Status      | Opens the Server Status Tool which contains statistical and diagnostic information that you can use to assess your system and investigate unexpected system behavior. Only available for Administrators and on the LMS Pharma/Professional Server |
| <br>Favorites           | Favorites          | Displays the Favorites navigation pane on the left side of the View area.                                                                                                                                                                         |
| <br>Database           | Database           | Displays the Database pane on the left side of the View area. This button disables for Operators but enables for Power Users and Administrators.                                                                                                  |
| <br>Queries            | Queries            | Displays the Queries pane on the left side of the View area. This button is enabled for Administrators only.                                                                                                                                      |
| <br>Operator Documents | Operator Documents | Displays the Operator Documents pane on the left side of the View area.                                                                                                                                                                           |
| <br>Areas of Interest  | Areas of Interest  | Displays the Area of Interest pane on the left side of the View area. This button is enabled for Administrators only.                                                                                                                             |

|                                                                                     |                    |                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | OPC                | Displays the OPC Data pane on the left side of the View area. This button is enabled for Administrators only.                                                                                                                                                                |
|    | OPC Historic       | Displays the OPC Historic pane on the left side of the View area. This button is enabled for Administrators only.                                                                                                                                                            |
|    | Messages           | The Messages window provides feedback and diagnostic information about tasks that are running in the current local ViewX Client.                                                                                                                                             |
|    | Display References | Opens a Display References window to display a list of: <ul style="list-style-type: none"> <li>•The database items that have references to the selected database item</li> <li>•The database items to which there are references from the selected database item.</li> </ul> |
|   | Search Database    | You can search the LMS Pharma/Professional database for one or more items. This includes searches for groups, points, trends, mimics, accumulators, reports or any other type of database item.                                                                              |
|  | Locate             | Used to locate a database item in one of two Explorer Bars, while the 'document' or other display associated with that item is open in the document display area.                                                                                                            |
|  | List All Documents | Use to display a list of the documents that are currently open in the Document Display Area. You can select an entry from the list to bring that document window to the forefront and make it the active window.                                                             |
|  | Close Document     | Use to close the currently selected document, while leaving alone any other documents that are currently open. If the document was being edited, but the changes are unsaved, a dialog box is displayed.                                                                     |

|                                                                                                          |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Close All Documents | Close All Documents | Use to close all of the documents that are open in the Document Display Area. If any of the documents were being edited, but the changes are unsaved, a dialog box is displayed. Use the dialog box to specify whether you want to save or discard the changes or cancel the request to close the documents.                                                                                                                                                                                   |
| <br>Full Screen         | Full Screen         | Use to switch the ViewX window in and out of Full Screen mode. <ul style="list-style-type: none"> <li>•The ViewX title bar does not display</li> <li>•The ribbon is minimized (see Minimize the Ribbon)</li> <li>•The Quick Access Toolbar is hidden</li> <li>•The File Menu button displays at reduced size</li> <li>•The status bar does not display</li> <li>•The Minimize, Maximize, Restore and Close buttons do not display</li> <li>•ViewX extends over the Windows taskbar.</li> </ul> |

### ViewX Ribbon Buttons



### ViewX File Toolbar Buttons

| Button                                                                                                          | Command            | Description                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <a href="#">Print</a>         | Print              | Open a Print Setup dialog box and print the current view. This button is disabled in some views.                                                                                                                          |
|  <a href="#">Print Preview</a> | Print Preview      | Certain features, such as Function Blocks and Query Lists allow you to preview the printed output before actually printing.                                                                                               |
|                                | Zoom               | Enlarges the entire View area by a default amount.                                                                                                                                                                        |
|                                | Zoom In            | Enlarges the entire View area by a default amount.                                                                                                                                                                        |
|                                | Zoom Out           | Reduces the entire View area by a default amount.                                                                                                                                                                         |
|                               | Zoom Box           | Changes the cursor to a magnifying glass, clicking and holding down the left mouse button while dragging the cursor will select an area to zoom. Releasing the left mouse button will zoom the View to the area selected. |
|                              | Pan                | Moves the View area in the direction selected.                                                                                                                                                                            |
|                              | Zoom Lock          | Locks to the current zoom.                                                                                                                                                                                                |
|                              | Active Pick Action | Displays a separate window as a reference with the View Area displayed.                                                                                                                                                   |
|                              | Previous Interval  | By using the Previous Interval, you can force the Trend to display the interval prior to the currently displayed interval.                                                                                                |
|                              | Next Interval      | By using the Next Interval, you can force the Trend to display the interval after the currently displayed interval.                                                                                                       |

| Button                                                                                             | Command | Description                                         |
|----------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------|
| <br>Save          | Save    | Save changes.                                       |
|  Cut              | Cut     | Cut or delete the selected item(s).                 |
|  Copy             | Copy    | Copy the selected item(s).                          |
| <br>Paste<br>▼    | Paste   | Paste the copied items(s) in the selected location. |
| <br>Undo          | Un-Do   | Un-do the latest changes.                           |
| <br>Redo          | Re-Do   | Re-do the last un-done change.                      |
| <br>Design Mode | Design  | Enabled when in an item, in Design or edit mode.    |
|  Help           | Help    | Displays the LMS Pharma/Professional Help Toolbar.  |

### Additional ViewX Toolbar Buttons

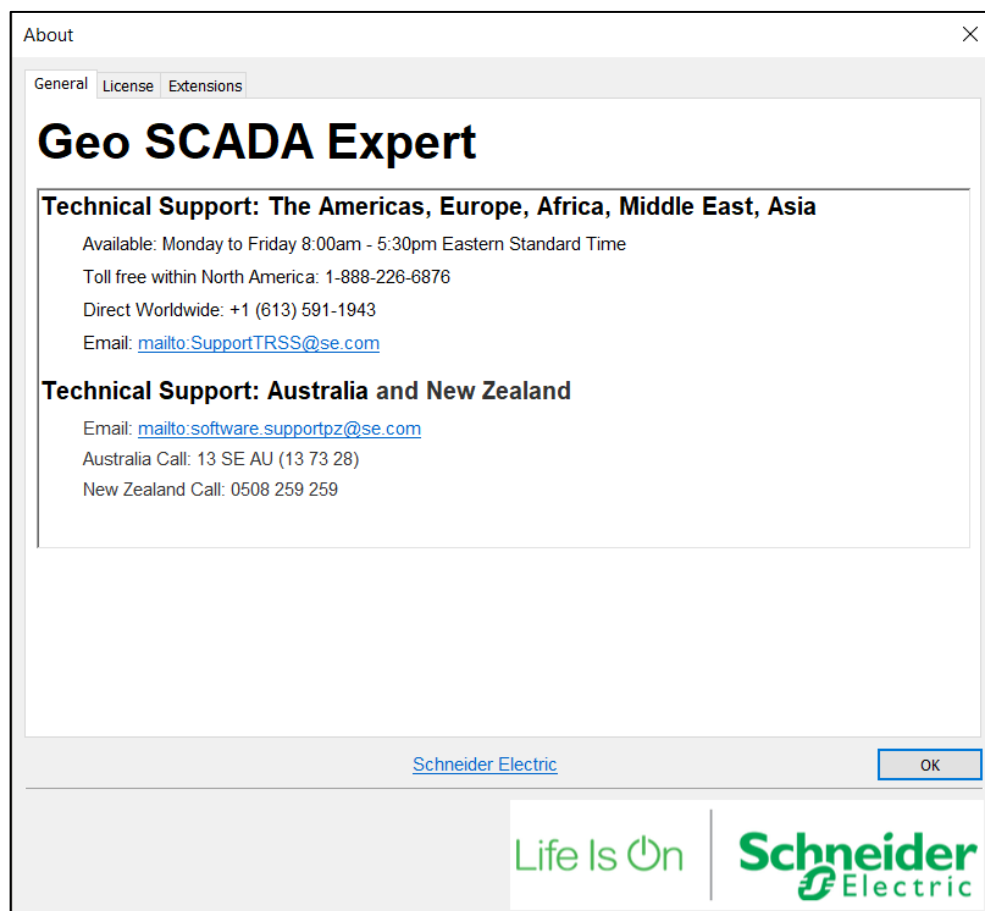
## ViewX Application Menu

Throughout LMS Pharma/Professional, any time a menu or button in the ribbon is displayed, the items shown on the menu will automatically be adjusted based on the permissions of the user. For example, if the user logs in as an Administrator and clicks on a sensor in alarm, the menu will include options to Acknowledge Alarms, because Administrator accounts have permission to acknowledge alarms.

If the user logs in as an Operator and clicks on the same sensor, the menu that appears will NOT include options to Acknowledge Alarms, because Operators are not allowed to acknowledge alarms.

## ViewX application About Window

Selecting the About option from the Help menu displays the LMS Pharma/Professional ViewX application About window.

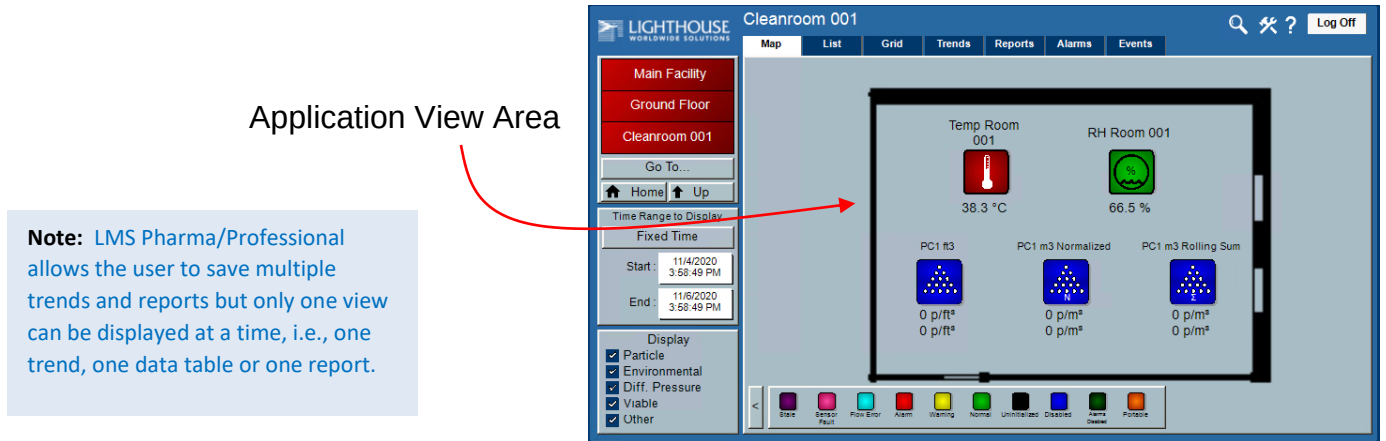


ViewX application About window

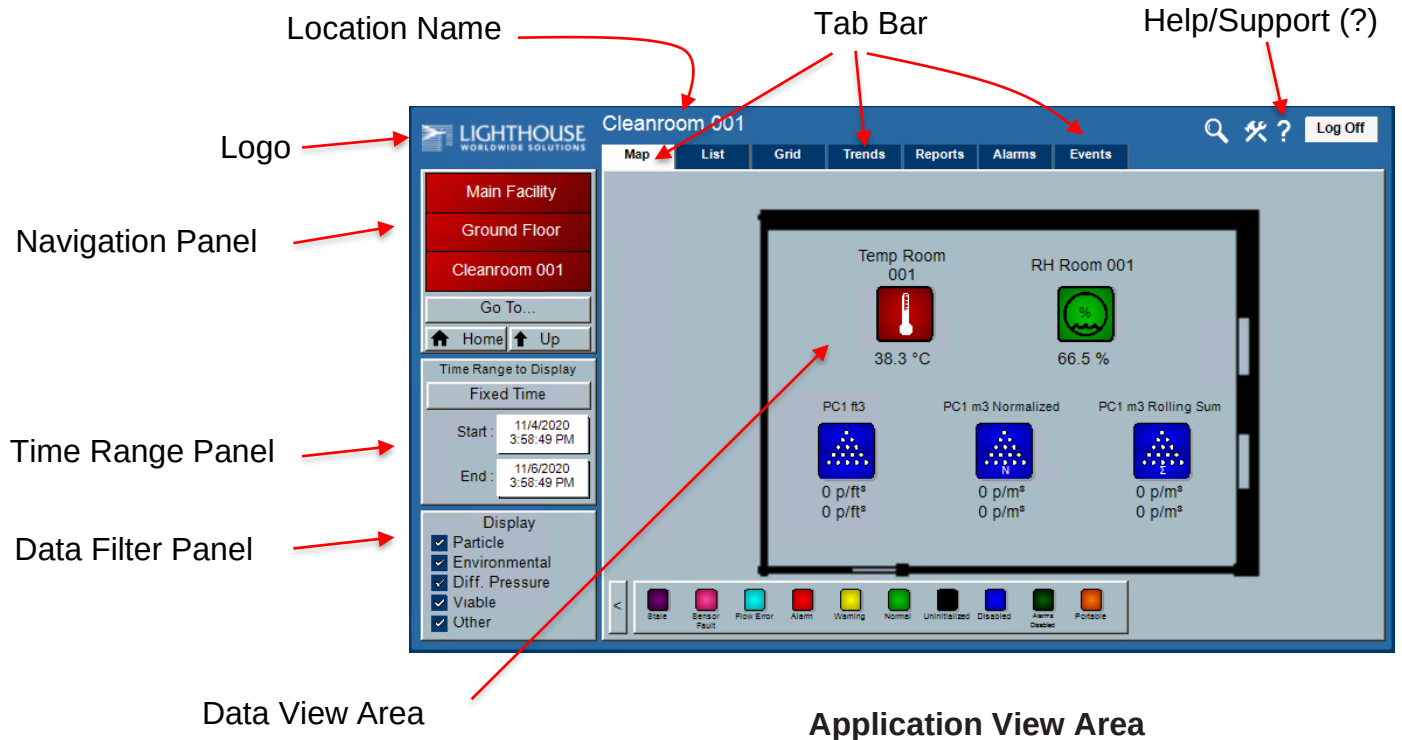
## View Area

### Application View Area

The main LMS Pharma/Professional application view area displayed in the ViewX application, and the Web Client (Virtual ViewX Client) consists of a screen with several standard elements that remain constant regardless of the type of data the user is viewing.



Users will use the Application View Area to display maps, trends, lists, alarms, events, historical data tables and reports.



## Application Logo

- Located in the top left corner of the screen.
- In this example, the logo is the Lighthouse logo. This can be replaced with a company logo.

## Navigation Panel

- Located in the top left corner of the application view area.
- When the Main level of the facility is displayed, the Navigation Panel displays the overall status of the whole facility, giving the user a visual overview of the facility's alarm status regardless of which level is being viewed.
- The Navigation Panel map is active. Clicking on the map will change the Data View area to display the area the user clicked on, just like on a full-sized map (see the chapters on Maps).
- When appropriate, Up and Home buttons will be displayed at the bottom of the Navigation Panel to allow the user to navigate up one level or to jump to the user's start page.

## Location Name

- The name of the location or area currently being viewed is shown just below the banner, to the right of the Navigation Panel.
- When the location is at the level of the Main facility, all the data for all areas is included.
- At other levels in the facility, the current Location limits the data the user can see. Only data for sensors in the current location (and any locations below it) will be displayed on the List view and in reports, events, and alarms.

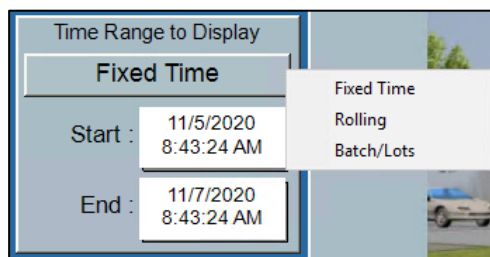
## Tab Bar

- Just below the Location Name is a row of tabs.
- The tabs provide different views of the same data.
- When viewing data at the level of the Main facility, all data for all areas is included.
- The text of the tabs that display real time updated data is green and the tabs that display historical data display in yellow.
- Tabs include Map, List, Grid, Trends, Reports, Alarms, Events and Process.
- The Process tab is an optional tab that will display any custom data or functions purchased by the customer.

**Note:** There are 2 basic types of views: Real-Time (Current) views and Historical views.

## Time Range Panel

- On the left side of the screen, just below the Navigation Panel, is the Time Range Panel.
- The Time Range Panel is enabled for views that allow historical data to be displayed. For all other views, the Time Range Panel will be disabled (greyed out).
- On the Time Range Panel, the user can enter a start and end date to specify the range of data the user wishes to view or select a Rolling Time range (1hr, 4hrs, 8hrs, 24hrs and a week) or select a Batch/Lot from available batches in the area.



**Time Range Panel**

- Once the user has entered a time range, the Alarm and Event tabs will update to display data that is in the new time range. And the next Trends or Reports that are displayed will use the newly specified time range.
- The time range set will remain in effect when the user navigates to other areas.
- If the user is viewing a tab to which the time range is not applicable, the entire Time Range panel will be greyed out and inactive.

**Note:** If Batch/Lot is used as a filter in an area and the user navigates out of the area, the time range panel filter is set to Fixed Range with Start, and End time set to the originally selected Batch/Lot's Start and End times.

### Data Filter Panel

- On the left side of the screen, below the Range Panel, is the Data Filter Panel.
- Up to 5 Data Filters are available and can be customized, in **LMS Pharma/Professional**.
- The user can select the type(s) of data the user wishes to view by checking and un-checking the appropriate sensor type check boxes.
- The filters checked/unchecked will be applied to the data shown on the List and Reports tabs only.
- If the user is viewing a tab to which data filters are not applicable, the entire Data Filter panel will be greyed out and inactive.

### Data View Area

This area displays the data for the currently viewed area based on the currently selected tab in the Tab bar. See the following chapters for more information on each type of view.

### Map

Shows a map of the area being viewed. When at the level of the Main facility, a map of the whole facility is shown.

## Data List and Grid

Shows a list of all the data points in the area viewed, including the current value and alarm state for each point. Grid shows a set of sensors or data channels. Each sensor or data channels is shown as an icon. The sensor or channels status will be displayed by the icons color. If there are unacknowledged alarm(s), the grid icon will blink on and off.

## Trends

Shows a list of all pre-built Trends in (and below) the area being viewed.

## Reports

Shows a list of available reports. This list includes both reports available for the whole system and any reports specific to the area currently being viewed.

## Alarms and Events

Alarms show a list of all historical alarms for all objects in the area currently being viewed. Events show a list of historical events for all objects in the area currently being viewed. This includes events related to alarms (each time a point goes into and out of alarm), as well as errors, configuration changes and renaming of points.

## Process (Optional)

Shows a list or set of customized data or control points for the current area being viewed.

## Shutdown

Shut down LMS Pharma/Professional ViewX or Web (Virtual ViewX) Client in one of three ways:

To release the used ViewX or Web license (*so it can be used by other users*) always press the Log Off button in the Ribbon or in the mimic.

- press Alt+F4.
- click on the “x” in the program’s upper right corner.
- Select the File menu and the Exit option.

Data will continue to be collected by LMS Pharma/Professional after shutting down the ViewX or Web (Virtual ViewX) Client because data collection is a service running on the Server.

## Maps

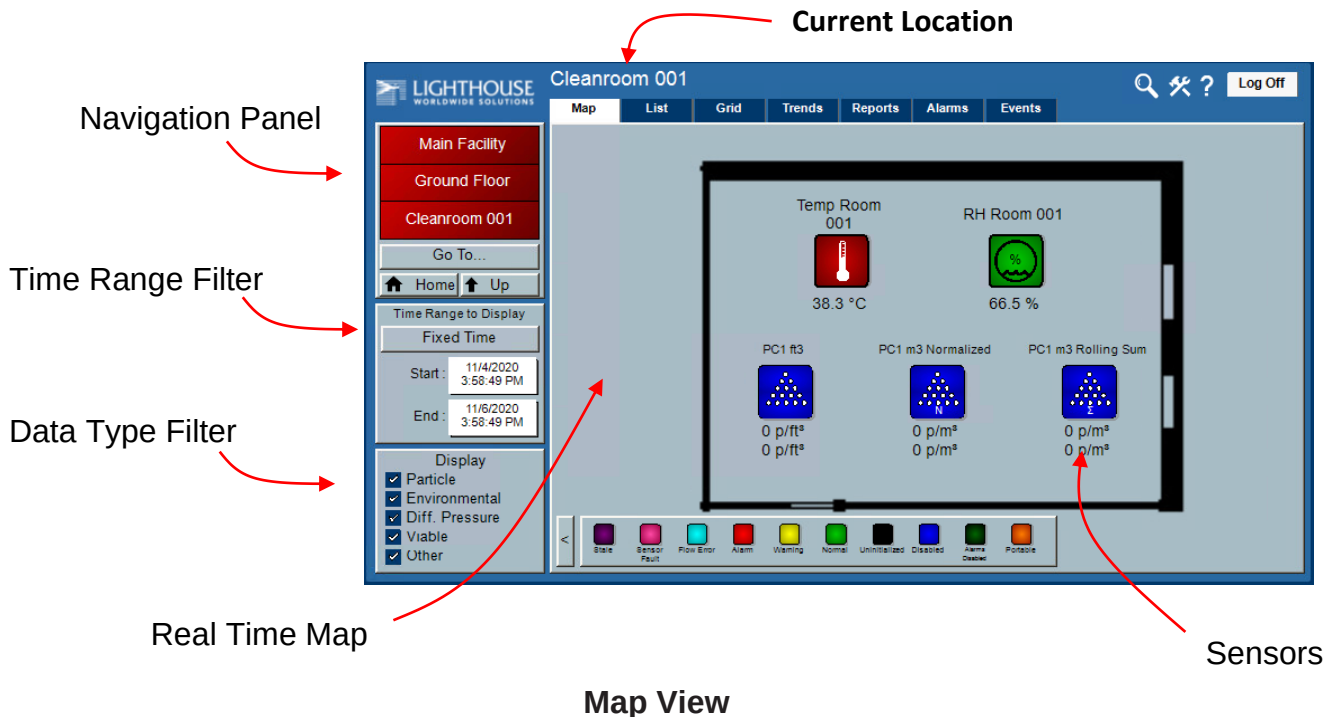
This chapter describes how to display LMS Pharma/Professional real-time maps.

LMS Pharma/Professional's single-level and multi-level maps update in real-time to provide a quick overview of the entire facility. All items on maps are active and provide data viewing, analysis, and alarm management options directly through the map. In addition, maps are enabled with a 1-click "drill-down" feature that allows users to quickly view a detailed status of areas in alarm.

### Map Display

To display a map, click a colored area on the Navigation panel then click the Map tab.

When displayed, maps update real-time. If alarms are configured and enabled, maps display the most recent status for each sensor or instrument on the map. The most severe status propagates up, per location, to the level above it and is summarized at the highest level on the Navigation Panel.



## Main Facility

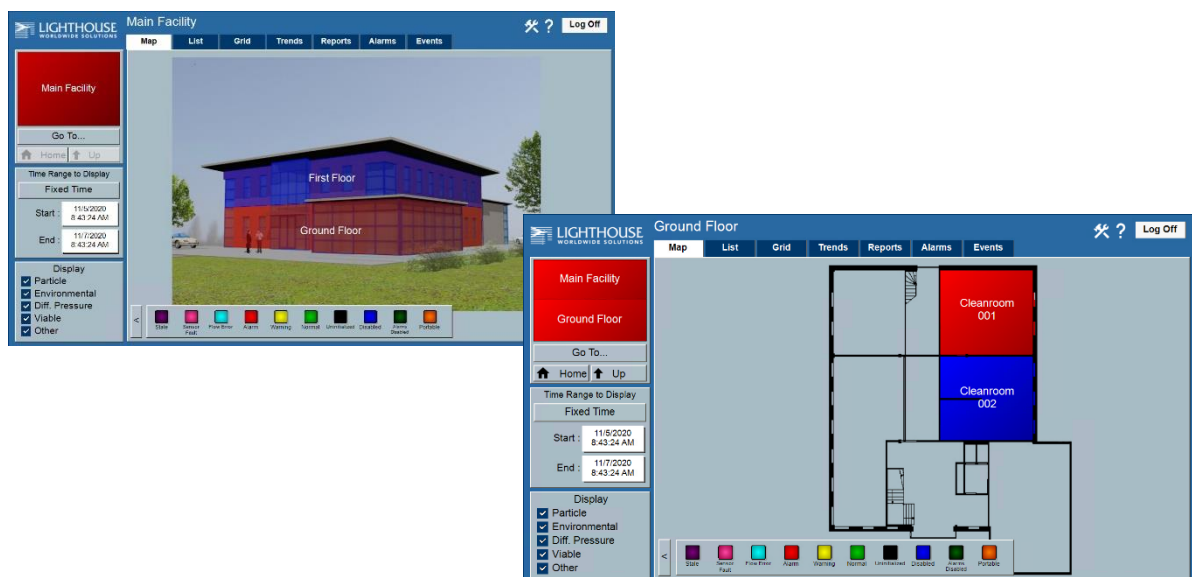
The Main Facility is a map of the whole facility shown in both the Navigation Panel and the view area.



Example, Main Facility

## Map Levels

LMS Pharma maps can have multiple areas and levels. Below is a screen shot of a main level of a map and area within the map.



Example, Main map and an area map

## Map Features

### Alarms on Map

The Icon color on the map represents the alarm level and status of the data within that area.

**Map View Alarm Level/Status**

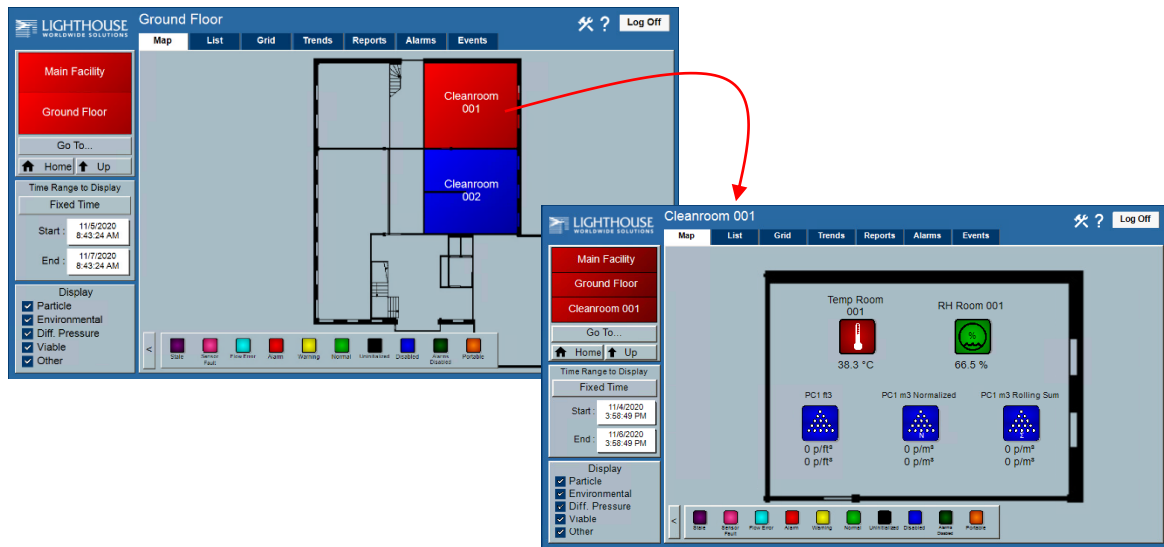
| Alarm Level                        | Alarm Color |                                                                                     | Description                                                                                                                                                                                          |
|------------------------------------|-------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stale                              | Dark Purple |    | New data has not been received on the point for longer than the specified Stale Limit. This can be due to communication errors with the sensor, filter conditions (if appropriate) or other reasons. |
| Sensor Fault                       | Pink        |    | There is a configuration or system error, which is preventing the point of data from being collected properly. The system should be serviced by a Lighthouse qualified service engineer.             |
| Flow Error                         | Cyan Blue   |    | The point has a condition that may prevent accurate data recording. for example, the sensor may not have the proper range of air flow or the sensor element may need cleaning or service.            |
| Alarm                              | Red         |    | The point data exceeds one of the specified alarm limits. There is no alarm delay or the alarm delay period has expired.                                                                             |
| Warning                            | Yellow      |   | The point data exceeds one of the specified warning limits. There is no warning delay, or the delay period has expired.                                                                              |
| Normal                             | Green       |  | Data is being collected normally.                                                                                                                                                                    |
| Uninitialized                      | Black       |  | A new data point has not been initialized or has not collected data.                                                                                                                                 |
| Disabled/<br>Stopped<br>Instrument | Dark Blue   |  | Data collection on the point has been disabled. The point will not record any new data while disabled.<br>This color is also used for particle counters when Instrument is stopped.                  |
| Alarms<br>Disabled                 | Dark Green  |  | Alarms have been disabled on the point. The sensor will not go into Alarm, Warning, Out of Range or Over Limit while disabled.                                                                       |
| Portable                           | Orange      |  | Particle counters can be configured as portable, this means that the counter will not go into stale when it is not reachable.                                                                        |

**Blinking:** Area(s) on a map will blink if there are any unacknowledged alarms or warnings in the area. If there are no unacknowledged alarms or warnings in the area, the area's color will be solid.

## Map Actions

Clicking on the map in any of the colored areas will zoom into that level (see Individual Areas, below).

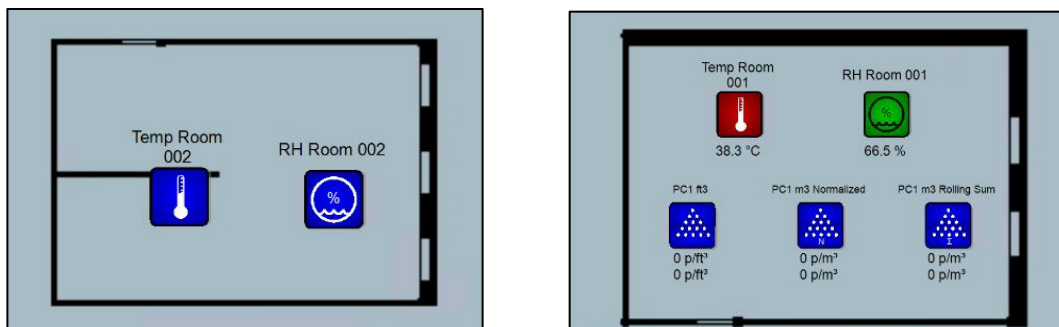
The Location Name at the top of the screen will change when the new level is displayed, and the Navigation Panel will change to show a small version of the Main facility map.



## Clicking to Navigate Map Levels

### Individual Map Areas

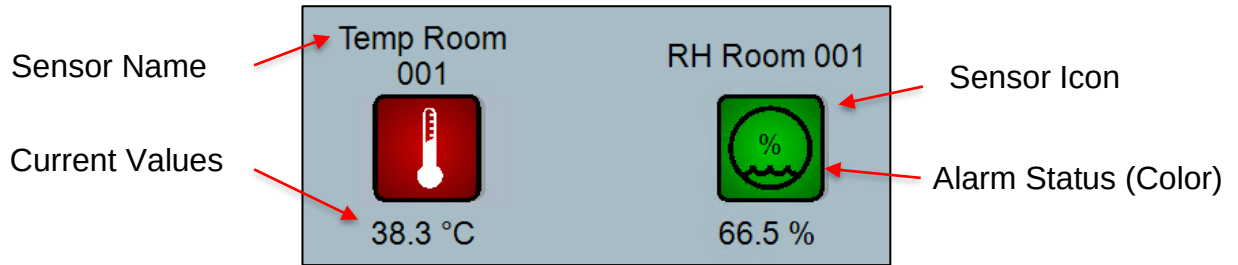
When at the level of an individual area or location, the zoomed-in map of the area is shown, with individual icons for each sensor in that area.



## Example Map Levels

## Sensor Icons

Details for sensor icons.



### Sensor Icons display:

- The name of the sensor.
- The icon represents the physical sensor.  
(Different sensor types will have different icons or shapes.)
- The icon color indicates the current alarm status of the individual sensor.
  - Green color is Normal status.
  - Red color is Alarm status.
  - Yellow color indicates Warning status.
  - Blue color indicates Fault status.
- The current data value(s) from the sensor, including units of measure.

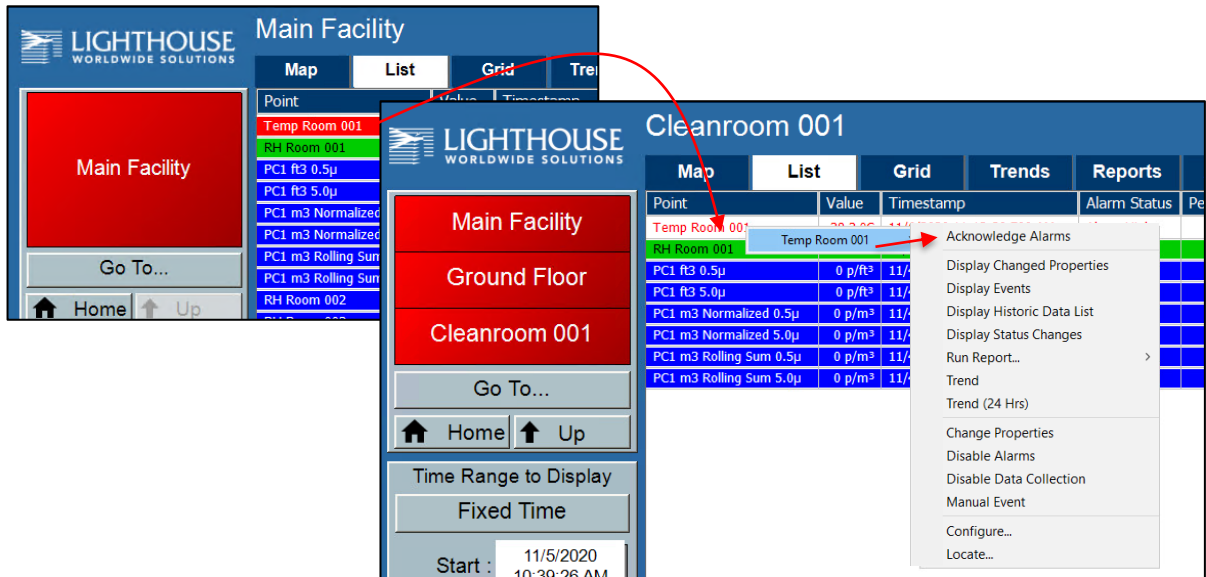
### Sensor Icon Tooltips

- Performing a "mouse-over" (hovering the mouse over) of a sensor icon on a map will display a tooltip with the current data for the sensor.

## Map Actions

### Sensor Menu

Clicking a sensor will display a menu pop out showing different options available for the sensor or data point.



### Sensor Menu

From the Sensor Menu, information about the sensor and its data can be acknowledged or viewed in several different ways for all channels or for an individual channel. This includes:

### Acknowledge Alarms

Acknowledges active alarms on the point. The user must have permissions to acknowledge alarms to view this option. A required comment must be selected from the pull-down and optional comment can manually be filled in. After the given password is verified, the alarm will be acknowledged with the required and optional comment in the event. The required comments can be changed/expand by a user with Administrator rights.

Electronic Signature Required (Acknowledge Alar... X

Select a Comment (Required): Calibration

Comment Detail (Optional):

Enter Password:

OK Cancel

### Acknowledge Alarms

**Display Changed Properties**

Displays the changes of properties (audit trail)

**Display Events**

Displays events for the sensor or channel selected.

**Display Historic Data List**

Displays the Historic Data for the point that has historic logging enabled.

**Display Status Changes**

Displays status changes for the sensor or channel selected.

**Run Report**

This option is visible only to Administrators and Power Users. Run Reports menu allows the authorized user to run and display Status (Measurement Status Report), Trend and Changed Properties reports for a point.

**Trend**

Display a pre-configured trend of the sensors for the chosen time in the Time Range to Display.

**Trend (24 hour)**

Display a pre-configured trend of the sensor for the past 24 hours.

**Change Properties**

This option is visible only to Administrators and allows the authorized user to change the Alarm Limits, Warnings and Alarm Delays and Trend Minimum and Maximum.

**Disable Alarms**

Disables alarms on the point. The user must have permissions to disable alarms to view this option.

**Disable Data Collection**

This option is visible only to Administrators and allows the authorized user to disable Data Collection on the point.

**Manual Event**

This option is to add a manual event on a particular date and time (log book).

**Configure**

Displays an action menu of Reset Process Count (resets process counts back to zero) and Properties (another place where Sensor properties can be displayed).

## Locate

Allows the user to locate the point using in Database Explorer, in OPC Data Explorer or in Template.

- Locating a data point in Database Explorer uses the Database Explorer to search the system database for the data point
- Locating a data point in OPC Data Explorer uses an OPC-capable data explorer to search the OPC data point database.
- Locating a data point in Template searches the templates for the one that is associated with the specific data point. This can help when setting up a new sensor and a template can be duplicated to create more points of the same type to cut the time involved. See examples below.

The image displays three overlapping screenshots of the Lighthouse software interface, illustrating different methods to locate data points. Red arrows point from text labels to specific areas in each screenshot.

**Database Explorer:** The top screenshot shows the 'Database Explorer' window. It features a tree view on the left with categories like 'Data', 'First Floor', 'Ground Floor', 'Status', 'Area', 'Configuration', 'Icons', 'Cleanroom 001', 'Area', 'Configuration', 'Icons', 'Data', 'Configuration', 'Icons', 'Cleanroom 002', 'Cleanroom 003', and 'Data'. A red arrow points from the 'Locate in Template' label to the 'Data' folder under 'Cleanroom 001'.

**OPC Data:** The middle screenshot shows the 'OPC Data' window. It has a tree view on the left with categories like 'Sensors', 'Icons', 'Environmentals', 'Calc Diff Temp', 'Calc Pressure -50', 'DI', 'Diff Pressure 0 - 10', 'Downflow 0 - 10', 'Humidity 0 - 100', 'Temp 0 - 100°C', 'Temp 0 - 50°C', 'Config', 'Summary', '24 Hours', 'Data', 'Icon', 'Instrument', 'Temp -100 - 0°C', 'Temp -40 - 60°C', 'Vacuum -1 - 0ba', 'LWS', 'Other', 'Particle Counters', 'Data', 'Installed Modules', 'Alarm Beacons', and 'Communications'. A red arrow points from the 'OPC Data' label to the 'Temp 0 - 50°C' sensor.

**Locate in Template:** The bottom screenshot shows the 'Main Facility' window. It has a 'Map' tab selected, showing a list of points and their values. A red arrow points from the 'Locate in Template' label to the 'Temp Room 001' point in the list.

**Main Facility Data Table:**

| Point                   | Value   | Timestamp                 | Alarm Stat |
|-------------------------|---------|---------------------------|------------|
| Temp Room 001           | 38.3 °C | 11/6/2020 12:04:00.700 PM | Alarm High |
| RH Room 001             | 66.5 %  | 11/6/2020 12:04:00.000 PM | Normal     |
| PC1 R3 0.5µ             | 0 p/ft³ | 11/4/2020 12:09:05.034 PM | Normal     |
| PC1 R3 5.0µ             | 0 p/ft³ | 11/4/2020 12:09:05.034 PM | Normal     |
| PC1 m3 Normalized 0.5µ  | 0 p/m³  | 11/4/2020 12:09:05.034 PM | Normal     |
| PC1 m3 Normalized 5.0µ  | 0 p/m³  | 11/4/2020 12:09:05.034 PM | Normal     |
| PC1 m3 Rolling Sum 0.5µ | 0 p/m³  | 11/4/2020 12:09:05.034 PM | Normal     |
| PC1 m3 Rolling Sum 5.0µ | 0 p/m³  | 11/4/2020 12:09:05.034 PM | Normal     |
| RH Room 002             | -       | -                         | -          |
| RH Room 003             | -       | -                         | -          |
| RH Room 101             | -       | -                         | -          |
| RH Room 102             | -       | -                         | -          |
| Temp Room 002           | -       | -                         | -          |
| Temp Room 003           | -       | -                         | -          |
| Temp Room 101           | -       | -                         | -          |
| Temp Room 102           | -       | -                         | -          |

Different Locate Examples

## Map Group Menu

The Group menu applies to ALL points in the area, not just an individual sensor. For example, if the user selects “Display...” from this menu, data will be displayed for all sensors in the area, not just one individual sensor.

To apply an action to an individual sensor, click on that sensor; to apply an action to all the sensors in the area, click on the map background. This will cause a group menu to appear with many of the same choices as the Sensor Menu.

The screenshot displays the Lighthouse Main Facility interface. On the left, there is a sidebar with a 'Main Facility' map view, a 'Go To...' button, and a 'Time Range to Display' section set to 'Fixed Time' from 11/5/2020 11:55:41 AM to 11/7/2020 11:55:41 AM. Below this are display options for Particle, Environmental, Diff. Pressure, Viable, and Other, all of which are checked. The main area shows a table of sensor data with columns for Point, Value, Timestamp, Alarm Status, Pending, Quality, State, and Location. A context menu is open over the table, listing actions such as Acknowledge Alarms, Display Changed Properties, Display Events, Display Historic Data List, Display Status Changes, Run Report..., Export to CSV report, Trend, Trend Selection, Alarms..., Data Collection..., Manual Event, Add Map Level, Add Sensor, and Locate... The table data includes various sensors like Temp Room 001, RH Room 001, PC1 R3 0.5u, and others, with their current values and alarm states.

## Group Menu

### Acknowledge Alarms

Acknowledges active alarms on the Map/Area. The user must have permissions to acknowledge alarms to view this option.

### Display Changed Properties

Displays the changes of properties (audit trail)

### Display Events

Displays events for the sensors in the current area.

### Display Historic Data List

Displays the Historic Data for the points in the current area that have historic logging enabled.

## Display Status Changes

Displays status changes for the sensors in the current area.

## Run Report

This option is visible only to Administrators and Power Users. Run Report menu allows the authorized user to run and display Status, Trend and Changed Properties reports for all area points or sensors.

## Export to CSV Report

This option is to export historic data for a maximum of 6 selectable sensors to a csv file which can be stored locally.

## Trend

Display a pre-configured trend of the sensors for the chosen area and date and time in the Time Range to Display.

## Trend Selection

Display a trend with historic data for maximum 6 selectable sensors for the chosen area or lower on the date and time chosen in the Time Range to Display.

## Alarms

Enable and disable alarms of sensors in and below the area. The user must have permissions to disable alarms to view this option.

## Data Collection

Enable and disable data collection for sensors in area and below the area. This option is visible only to Administrators and allows the authorized user to disable Data Collection on these sensors.

## Manual Event

This option is to add a manual event on a particular date and time (log book).

## Add Map Level

This option is for Administrators to add a map level.

## Add Sensor

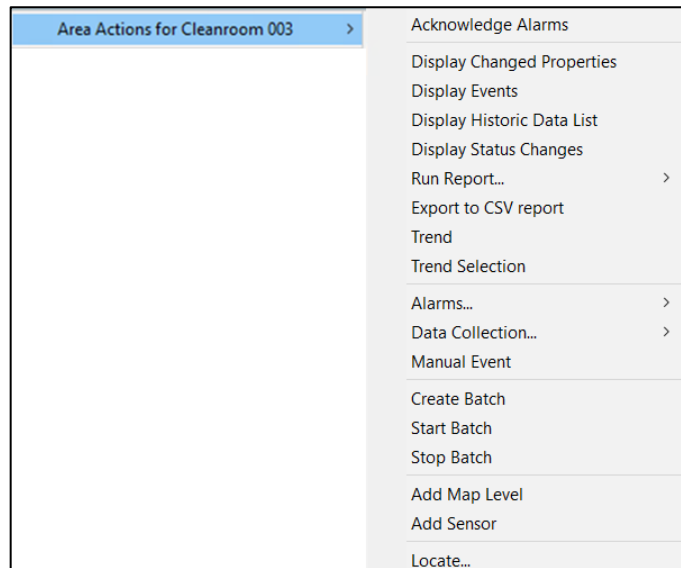
This option is for Administrators to add a sensor.

## Locate

Allow the user to locate the area using in Database Explorer, in OPC Data Explorer or in Template.

## Batch-Lot

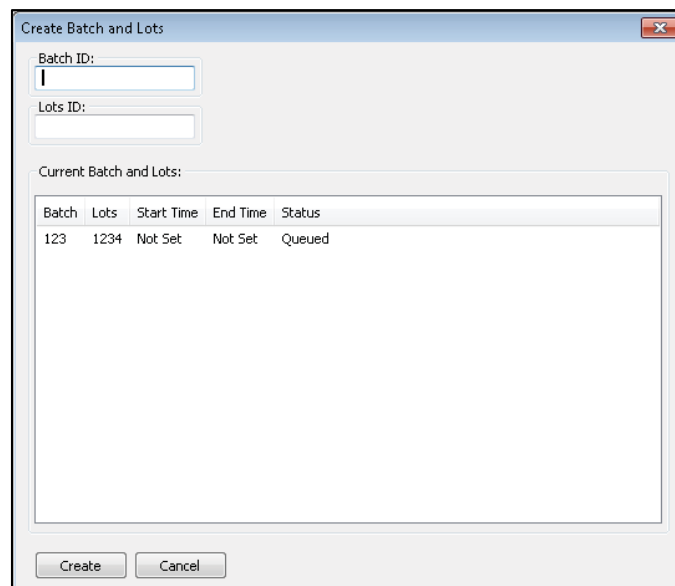
When the Batch-Lot feature is enabled for an area the area menu includes options to create and start/stop batches. Administrator's privileges are required to access these menu items.



**Area Menu with Options For Batch & Lot**

## Create Batch

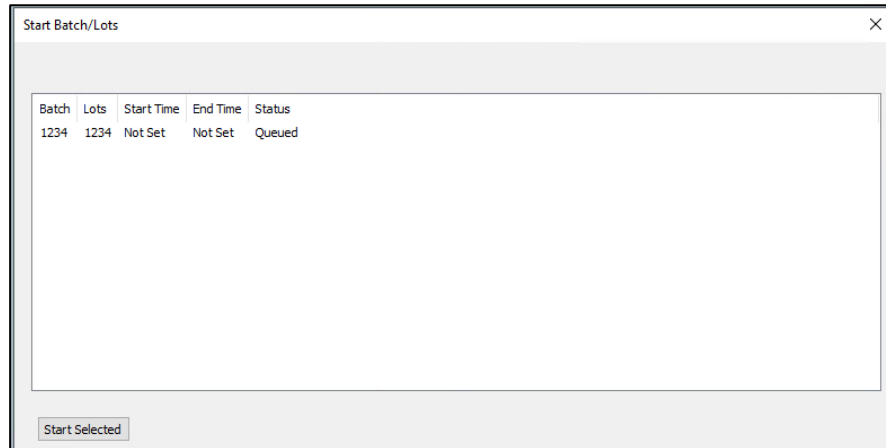
Create Batch allows the user to create a batch and lot in the current area. Selecting Create Batch will open the Create Batch screen.



**Create Batch and Lots**

## Start Batch

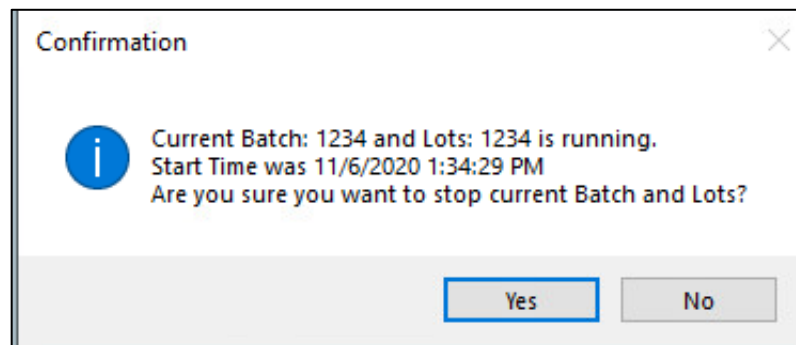
Displays the Start Batch screen with batches currently scheduled for the current area. Users can select a batch from the list and start it.



## Start Batch and Lots

## Stop Batch

Displays the information for the current batch running in the area and prompts user for confirmation to stop the batch. Users can select YES to stop the batch or NO to continue the batch.



## Stop Batch and Lots

## Data List and Grid

### Overview

Historical tables and Real Time Data Lists and Maps provide color coded and localized data and alarms. All tables provide quick and easy analysis of the data and alarm acknowledgement. Advanced search and sort features are available with a single mouse click.

This chapter describes how LMS Pharma/Professional displays the status of real time data in Real Time grid and list views.

### List Tab

To see a list of all the data points or sensors in the current location, including their most recent value and status, click the List tab as shown below.

| Map                     | List                | Grid                      | Trends       | Reports | Alarms  |
|-------------------------|---------------------|---------------------------|--------------|---------|---------|
| Point                   | Value               | Timestamp                 | Alarm Status | Pending | Quality |
| Temp Room 001           | 38.3 °C             | 11/6/2020 1:36:30.700 PM  | Alarm High   |         | Valid   |
| RH Room 001             | 66.5 %              | 11/6/2020 1:36:30.000 PM  | Normal       |         | Valid   |
| PC1 ft3 0.5μ            | 0 p/ft <sup>3</sup> | 11/4/2020 12:09:05.034 PM | Normal       |         | Flow F  |
| PC1 ft3 5.0μ            | 0 p/ft <sup>3</sup> | 11/4/2020 12:09:05.034 PM | Normal       |         | Flow F  |
| PC1 m3 Normalized 0.5μ  | 0 p/m <sup>3</sup>  | 11/4/2020 12:09:05.034 PM | Normal       |         | Flow F  |
| PC1 m3 Normalized 5.0μ  | 0 p/m <sup>3</sup>  | 11/4/2020 12:09:05.034 PM | Normal       |         | Flow F  |
| PC1 m3 Rolling Sum 0.5μ | 0 p/m <sup>3</sup>  | 11/4/2020 12:09:05.034 PM | Normal       |         | Flow F  |
| PC1 m3 Rolling Sum 5.0μ | 0 p/m <sup>3</sup>  | 11/4/2020 12:09:05.034 PM | Normal       |         | Flow F  |
| RH Room 002             |                     | -                         |              |         |         |
| RH Room 003             |                     | -                         |              |         |         |
| Temp Room 002           |                     | -                         |              |         |         |
| Temp Room 003           |                     | -                         |              |         |         |

### List View

### List Display

On the List tab,

- Each line of the list represents a data point or channel and is colored according to the current alarm status of the point.
- The text will be flashing if there are unacknowledged alarms for the point.

## List Actions

### List Menu

After clicking on any of the lines in the List view, the user is presented a menu like the menu that appears when a sensor on a map is selected.

| Map                     | List          | Grid      | Trends                     | Reports | Ala |
|-------------------------|---------------|-----------|----------------------------|---------|-----|
| Point                   | Value         | Timestamp | Alarm Status               | Pending |     |
| Temp Room 001           | Temp Room 001 |           | Acknowledge Alarms         |         |     |
| RH Room 001             |               |           | Display Changed Properties |         |     |
| PC1 ft3 0.5μ            | 0 p/ft³       | 11/4      | Display Events             |         |     |
| PC1 ft3 5.0μ            | 0 p/ft³       | 11/4      | Display Historic Data List |         |     |
| PC1 m3 Normalized 0.5μ  | 0 p/m³        | 11/4      | Display Status Changes     |         |     |
| PC1 m3 Normalized 5.0μ  | 0 p/m³        | 11/4      | Run Report...              |         |     |
| PC1 m3 Rolling Sum 0.5μ | 0 p/m³        | 11/4      | Trend                      |         |     |
| PC1 m3 Rolling Sum 5.0μ | 0 p/m³        | 11/4      | Trend (24 Hrs)             |         |     |
| RH Room 002             |               | -         | Change Properties          |         |     |
| RH Room 003             |               | -         | Disable Alarms             |         |     |
| Temp Room 002           |               | -         | Disable Data Collection    |         |     |
| Temp Room 003           |               | -         | Manual Event               |         |     |
|                         |               |           | Configure...               |         |     |
|                         |               |           | Locate...                  |         |     |

### List Sensor Menu

The user can perform the following actions from the List Sensor menu:

#### Acknowledge Alarms

Acknowledges active alarms on the point. The user must have permissions to acknowledge alarms to view this option.

#### Display Changed Properties:

Displays the changes of properties (audit trail).

#### Display Events

Displays events for the sensor or channel selected

#### Display Historic Data List

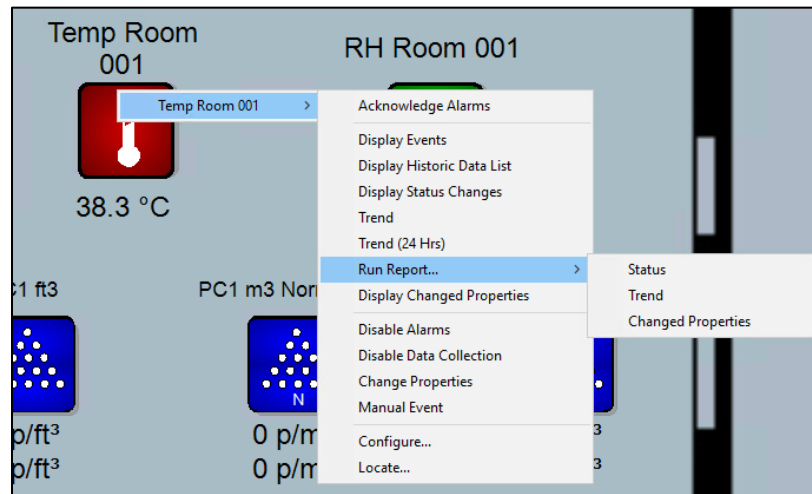
Displays the Historic Data for the point that has historic logging enabled

#### Display Status Changes

Displays status changes for the sensor or channel selected.

## Run Report

This option is available to Administrators and Power Users only. The Run Report menu allows the authorized user to run and display Status, Trend and Changed Properties for a specific point.



### Point Report Items

## Trend

Displays a pre-configured trend for the sensor. Display a pre-configured trend of the chosen area and date and time in the Time Range to Display.

## Trend (24 Hrs.)

Displays trends over a 24-hour period.

## Change Properties

This option is visible only to Administrators and allows the authorized user to change the Alarm Limits, Warning and Alarm Delays.

## Disable Alarms

Disables alarms on the point. The user must have permission to disable alarms to view this option.

## Disable Data Collection

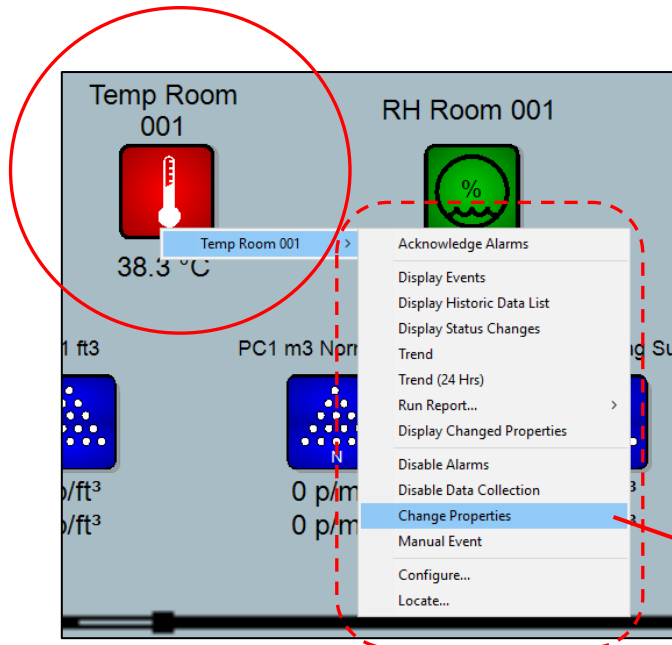
This choice disables data collection for selected point or points.

## Manual Event

This option is to add a manual event on a particular date and time (log book).

## Change Properties

This option is visible only to Administrators and allows the authorized user to change the Alarm Limits, Warnings and Alarm Delays. Right mouse click on any sensor icon.



**Sensor Point Menu**

**Electronic Signature Required (Change Properties)** X

Temp Room 001

Sensor Scale : 0 ... 50 °C

|                    |                                 |
|--------------------|---------------------------------|
| Alarm High Limit   | <input type="text" value="25"/> |
| Warning High Limit | <input type="text" value="20"/> |
| Warning Low Limit  | <input type="text" value="15"/> |
| Alarm Low Limit    | <input type="text" value="10"/> |
| Trend Minimum      | <input type="text" value="0"/>  |
| Trend Maximum      | <input type="text" value="50"/> |

|              | Count Limit (x)                | Sample Size (y)                |
|--------------|--------------------------------|--------------------------------|
| Alarm High   | <input type="text" value="3"/> | <input type="text" value="3"/> |
| Warning High | <input type="text" value="3"/> | <input type="text" value="3"/> |
| Warning Low  | <input type="text" value="3"/> | <input type="text" value="3"/> |
| Alarm Low    | <input type="text" value="3"/> | <input type="text" value="3"/> |

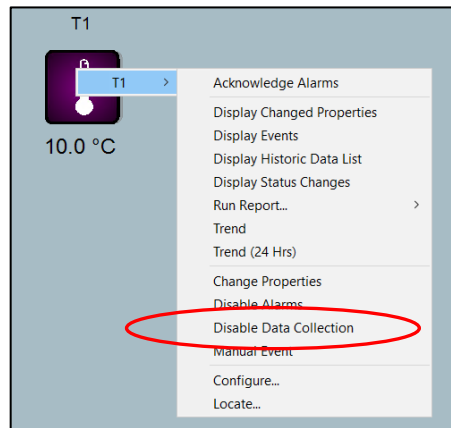
Select a Comment (Required):

Comment Detail (Optional):

Enter Password:

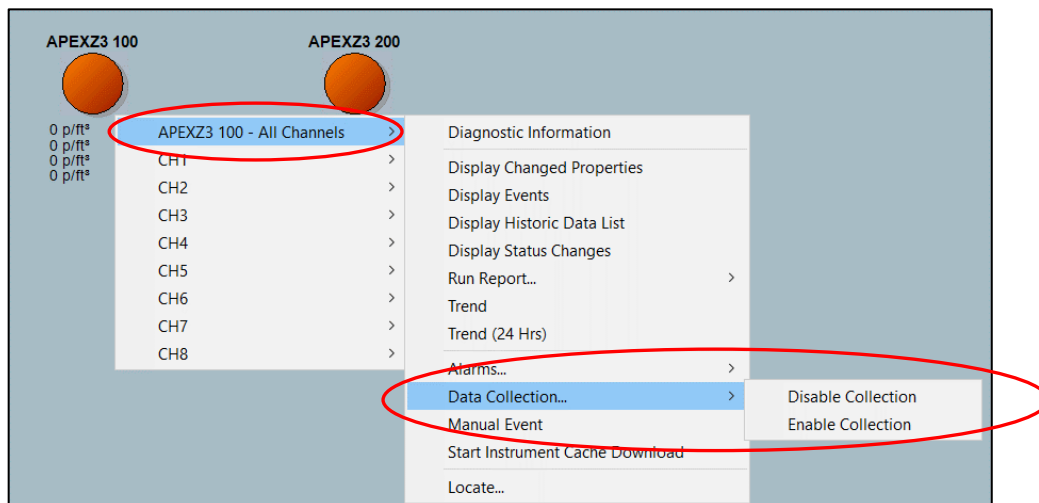
**Change Properties**

## Multiple Disable/Enable Data Collection



### Area Menu Example

**Data collection** can be enabled or disabled from an Area Menu for an entire area.



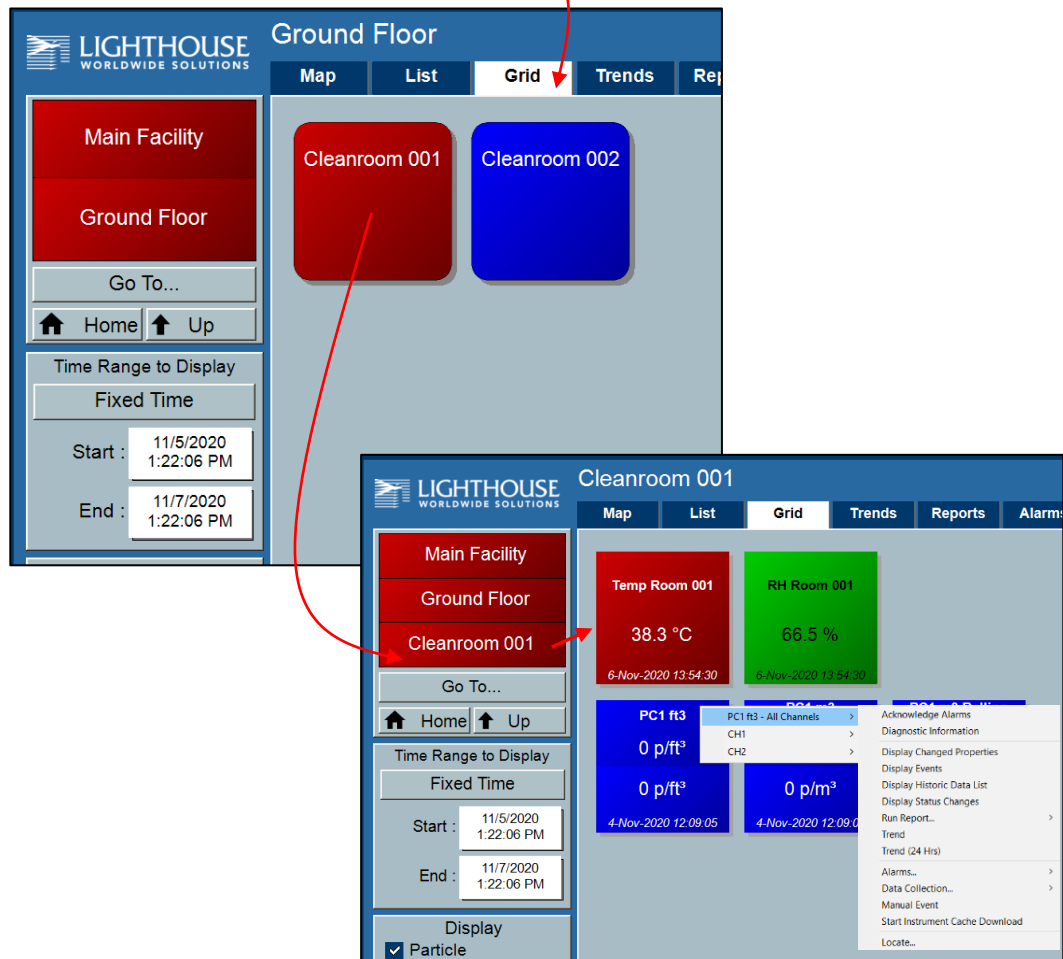
### Group Menu Example

**Data collection** can be enabled or disabled from a Group menu for an entire group area.

## Grid Tab

A quick way to get an overview of the status of many sensors in each location is to display the Grid tab.

To see the status list, click the Grid tab.



### Grid View Samples

The Grid tab shows a list of all the data points in the current location including their current value, alarm state and other details.

## Grid Display

### On the Grid tab:

- Each icon on the page represents a point, a channel or an area and is colored according to the current alarm status of the data point.
- The icon will be flashing if there are unacknowledged alarms for the point or area.

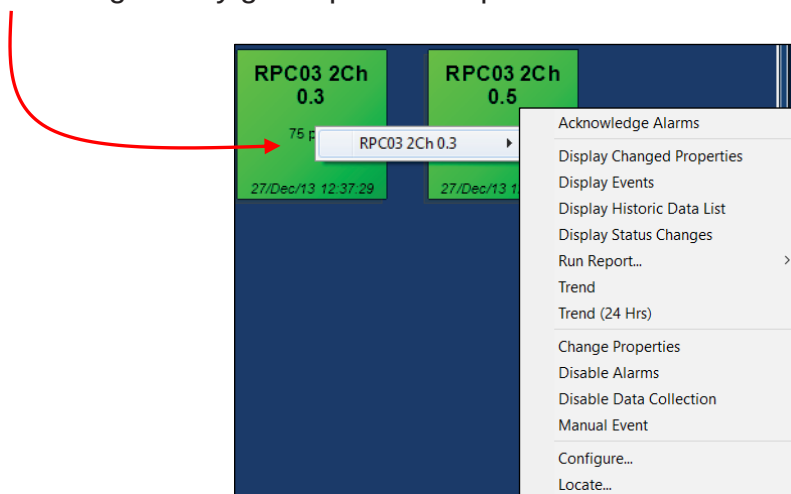
## Grid Actions

Grid Tab actions will be the same as Map Tab actions and will look similar.

## Grid Menu

The Grid Sensor Menu displays the Grid menu from the Grid View.

Right- clicking on any grid square will open the menu.



### Grid Sensor Menu



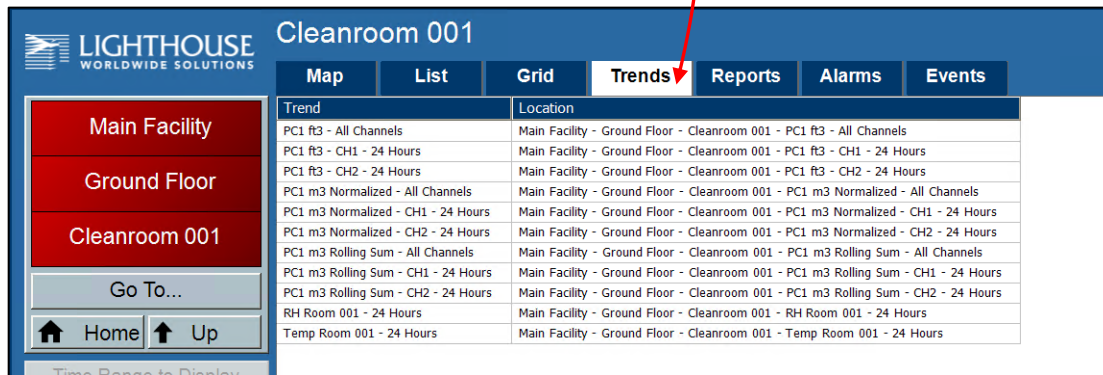
## Trends

This chapter describes how to display trends in LMS Pharma.

Trends support control lines, multiple axes, linear or logarithmic scales and immediate “click-less” zooming to any range of data. Trends can be launched for any data point at any time or for pre-defined and customized to specific data and view parameters.

LMS Pharma/Professional users can display static and rolling trends.

The Trends tab shows a list of all pre-built Trends in and below the area being viewed.



The screenshot shows the Lighthouse Worldwide Solutions interface for 'Cleanroom 001'. The 'Trends' tab is selected, displaying a list of pre-built trends. A red arrow points from the text above to the 'Trends' tab.

| Trend                               | Location                                                                           |
|-------------------------------------|------------------------------------------------------------------------------------|
| PC1 ft3 - All Channels              | Main Facility - Ground Floor - Cleanroom 001 - PC1 ft3 - All Channels              |
| PC1 ft3 - CH1 - 24 Hours            | Main Facility - Ground Floor - Cleanroom 001 - PC1 ft3 - CH1 - 24 Hours            |
| PC1 ft3 - CH2 - 24 Hours            | Main Facility - Ground Floor - Cleanroom 001 - PC1 ft3 - CH2 - 24 Hours            |
| PC1 m3 Normalized - All Channels    | Main Facility - Ground Floor - Cleanroom 001 - PC1 m3 Normalized - All Channels    |
| PC1 m3 Normalized - CH1 - 24 Hours  | Main Facility - Ground Floor - Cleanroom 001 - PC1 m3 Normalized - CH1 - 24 Hours  |
| PC1 m3 Normalized - CH2 - 24 Hours  | Main Facility - Ground Floor - Cleanroom 001 - PC1 m3 Normalized - CH2 - 24 Hours  |
| PC1 m3 Rolling Sum - All Channels   | Main Facility - Ground Floor - Cleanroom 001 - PC1 m3 Rolling Sum - All Channels   |
| PC1 m3 Rolling Sum - CH1 - 24 Hours | Main Facility - Ground Floor - Cleanroom 001 - PC1 m3 Rolling Sum - CH1 - 24 Hours |
| PC1 m3 Rolling Sum - CH2 - 24 Hours | Main Facility - Ground Floor - Cleanroom 001 - PC1 m3 Rolling Sum - CH2 - 24 Hours |
| RH Room 001 - 24 Hours              | Main Facility - Ground Floor - Cleanroom 001 - RH Room 001 - 24 Hours              |
| Temp Room 001 - 24 Hours            | Main Facility - Ground Floor - Cleanroom 001 - Temp Room 001 - 24 Hours            |

### Trend Tab

## Trend Display

To view a trend in the Web (Virtual ViewX) Client and the ViewX Client, select a trend in the list of Trends and click on it.

**Note:** In the application users can save trends as Favorites to quickly display them in the main window from the Favorites list or from menu pull-down.



### Click on Trend

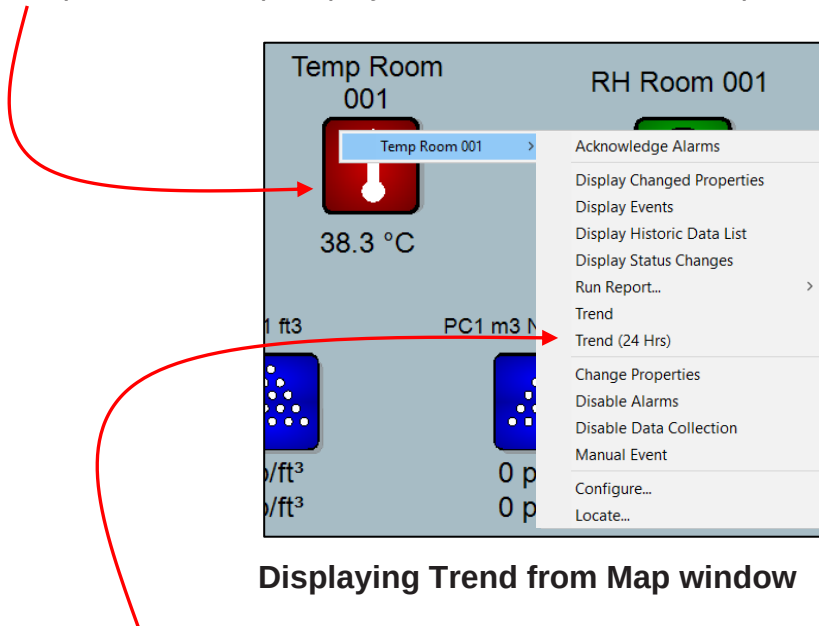
The Trends listed in the Trend Tab are typically more elaborate, displaying multiple points on a single trend, containing multiple axes, or having customized view styles, etc.

The user is not limited to just the Trends initially listed on the Trend tab. A Trend can be created for any point by clicking on the point on a Map or in the Data Status tab and selecting Display Current Trend or Display Historic Trend from the menu that appears.

## Display Trends from Maps and Lists

Current and Historical Trends can also be displayed from Maps and Lists.

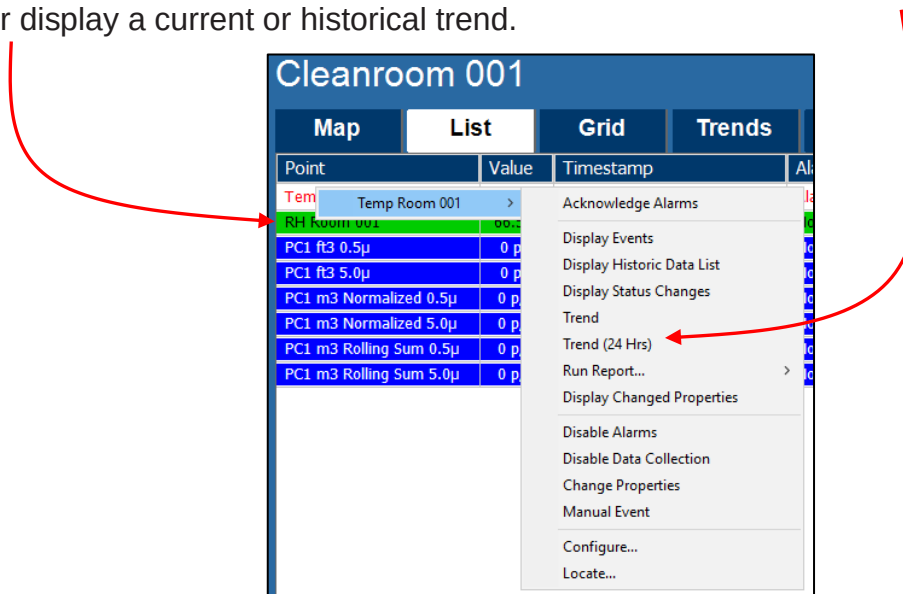
For example, with a Map displayed, click on a sensor to open the options list.



**Displaying Trend from Map window**

Then select Trend or Trends (24Hr) from menu to display a current or historical trend.

Similarly, a Trend can be displayed from a List window. To display a trend from a list, with a List displayed, click on a sensor, select Trend or Trend (24Hr) from the menu to either display a current or historical trend.



**Displaying Trend from List window**

## Trend Options

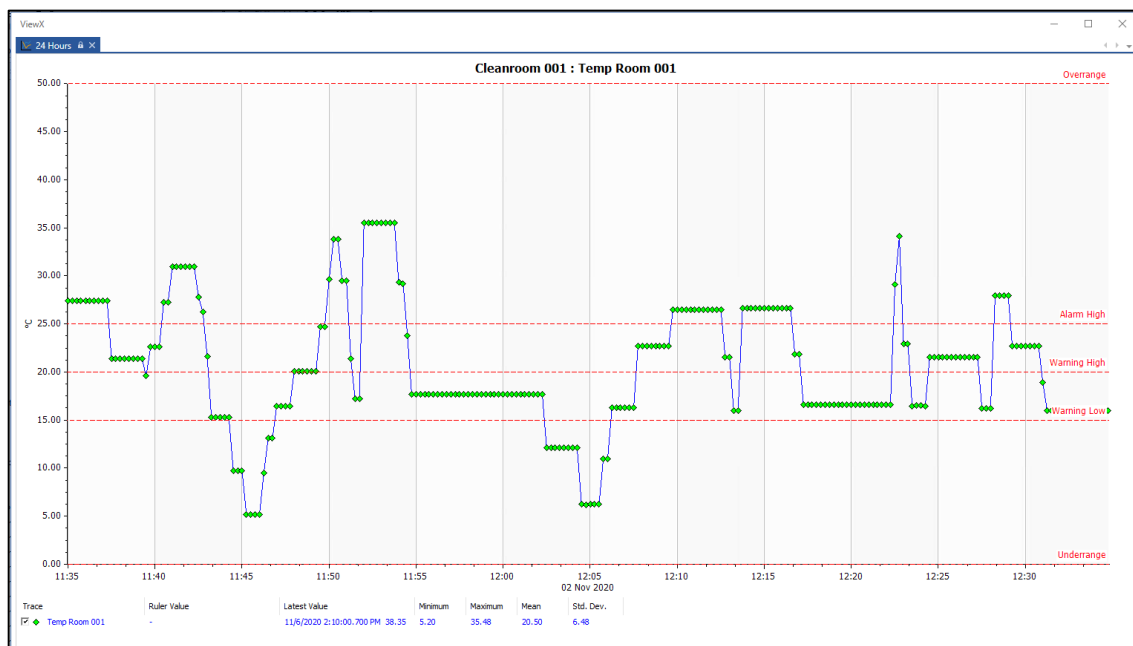
Once a Trend is displayed there are several options for changing the display of the trend while it is being viewed.

To change general display options for the Trend, click on the main area of the Trend. The Trend options menu appears as shown in

## Zoom

There are three ways to zoom in Trends.

- **Mouse Wheel:** To zoom in and out of a portion of the graph by time, place the mouse at the time to be zoomed in or out of and use the wheel on the mouse to zoom. To zoom in or out of the Y axis scale, place the mouse at the location on the axis to zoom in or out of and use the wheel on the mouse to zoom.
- **Menu Items:** The user can also zoom in or out by small increments by selecting “Zoom In” or “Zoom Out” from the menu.
- **Zoom Box:** The user can use the zoom box to zoom into a particular section of time and data.



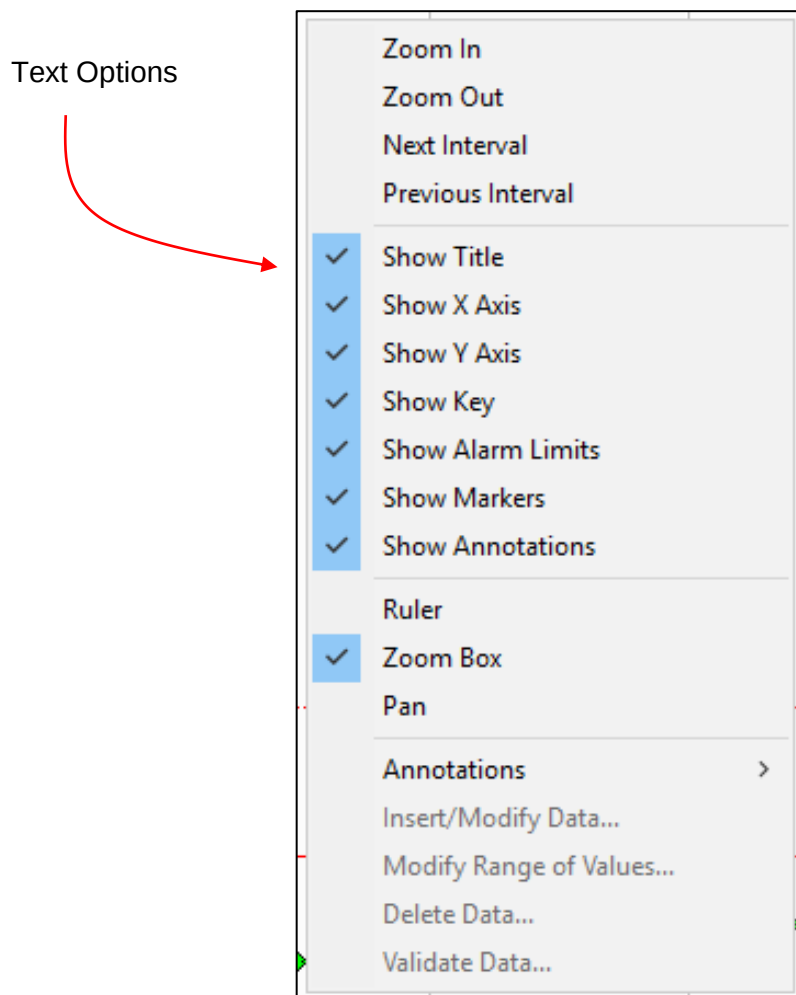
**Trend Zoom**

## Trend Markers

Green trend markers indicate recorded data trends. Brown colored trend markers indicate the data record is from buffered data, has a flow fault or is in an error state.

## Show and Hide Trend Text

To show or hide Trend Text such as the axis, title, annotations, or markers, click on the Trend to show the Trend Option menu and select or deselect the item the user wishes to show or hide on the trend.

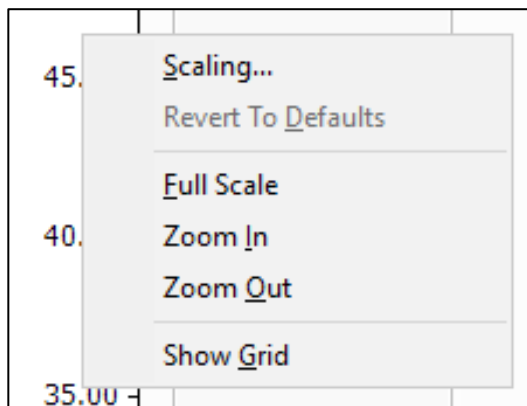


**Trend Text Option**

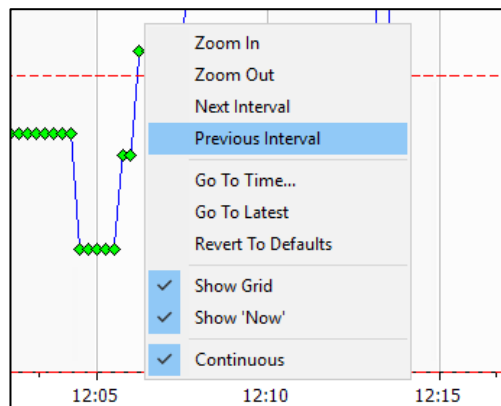
## Trend Axis

To change the way the axes are viewed, right-click on the axis the user wants to change. The appropriate Axis menu will appear.

Menu Y-Axis

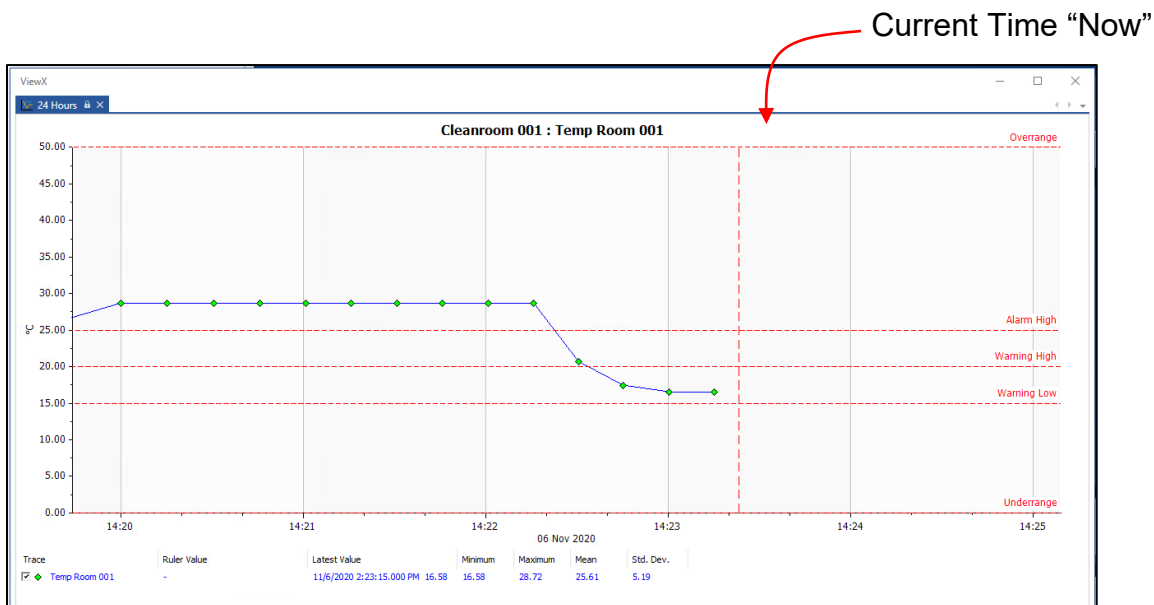


Menu X-Axis



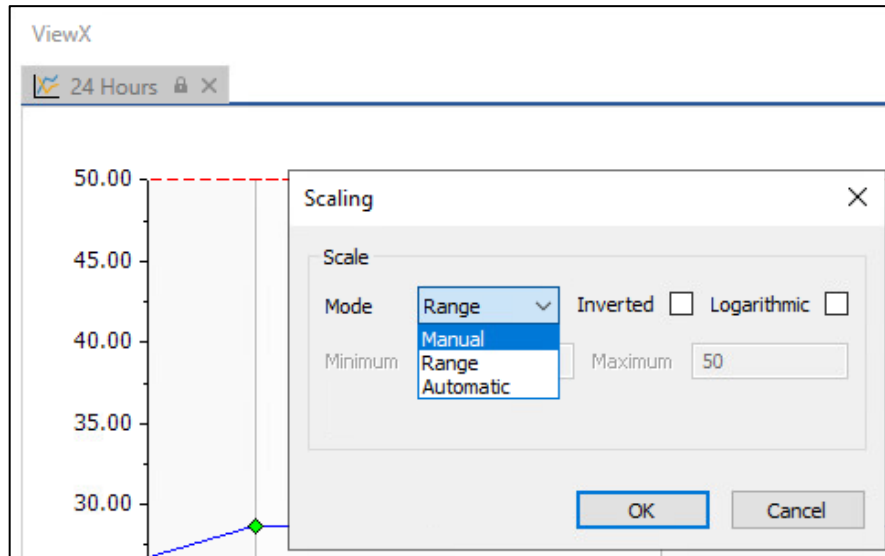
### Axis Menu Options

To change to an Axis, select one of the options on the Axis menu. For example, to mark the current time on the X Axis, right click on the X-Axis and select Show 'Now' from the X-Axis menu. The trend will be updated to display a vertical line marking the current time. This line will update as time updates.



### X Axis Showing "Now"

To adjust the Y-Axis scale, right click on the desired Y Axis and select “Scaling” from the Axis menu that appears.



**Y-Axis Scaling window**

### **Trend Ruler**

To display a vertical marking in the Trend, select Ruler from the menu.

### **Trend Actions**

There are several actions available to users when working with Trends.

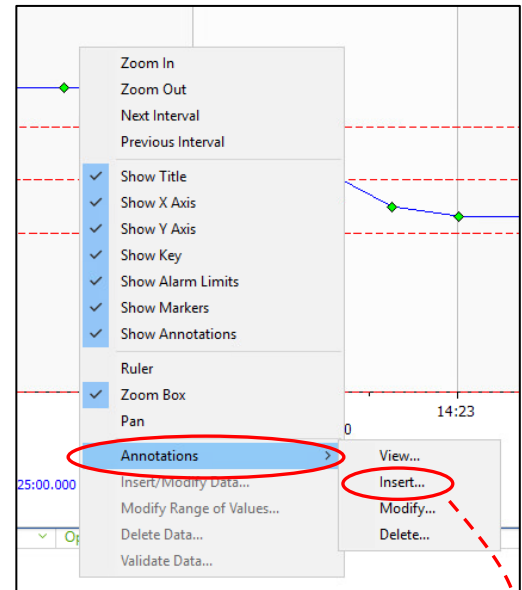
## Annotations

Annotations can be added to a Trend. Users with Operator permissions can view trend annotations. Users with Power User or above permissions can insert, modify, and delete trend annotations besides viewing them.

### Insert Annotation

To insert an annotation, log in as a Power User or an Administrator, right-click in the main area of the Trend.

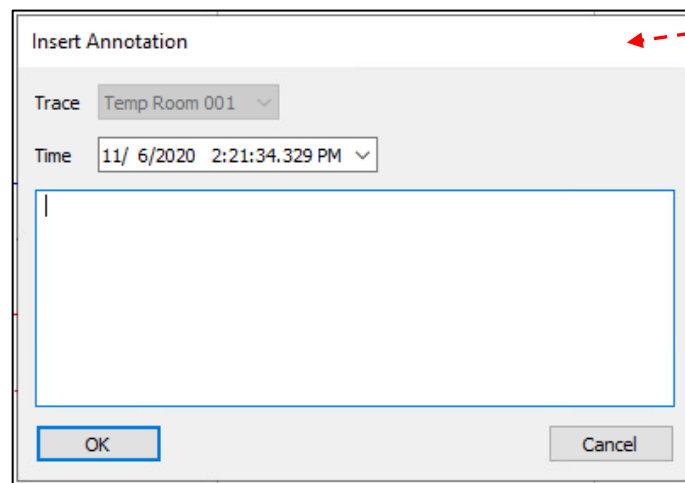
Next select Annotations and then insert from the Trend option menu.



**Annotation Menu Options**

The Insert Annotations window opens for the current trend.

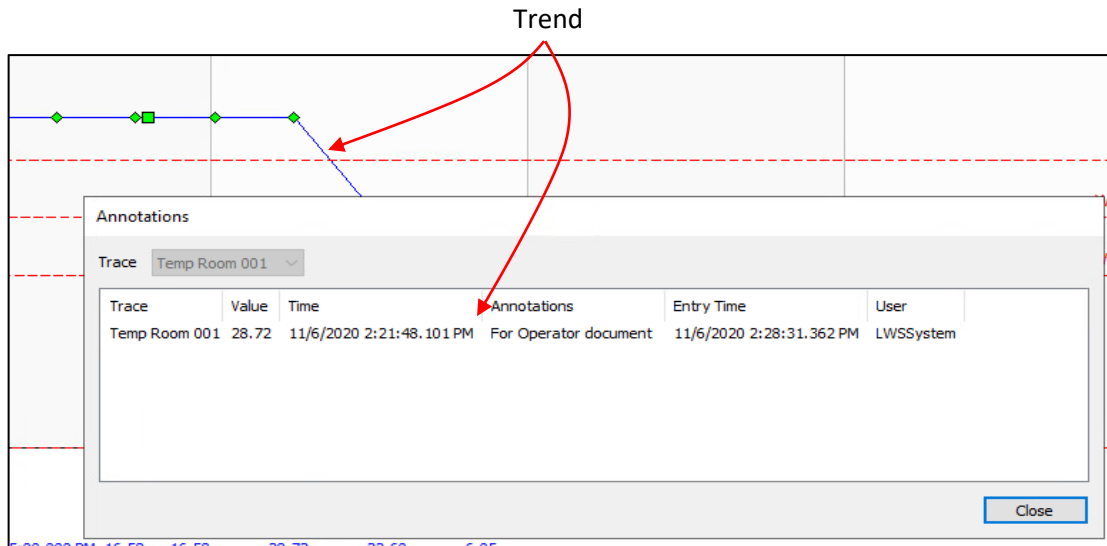
**Note:** Users may only insert, modify or delete annotations if the user is logged in as a Power User or an Administrator.



**Insert Annotation window**

- Enter the time the annotation is for and the text of the annotation.
- Click OK to close the Insert Annotation Window.

A marker will appear on the trace the user selected, at time the user selected for the annotation.



**Annotation on Trend**

## Modifying Annotations

To modify a trend annotation, click on the trend to display the Trend Options menu, select Annotations and Modify. The following Modify Annotation window appears, listing all annotations on the current trend.

Modify Annotations

Trace Temp Room 001

| Trace         | Value | Time                     | Annotations           | Entry Time               | User      |
|---------------|-------|--------------------------|-----------------------|--------------------------|-----------|
| Temp Room 001 | 28.72 | 11/6/2020 2:21:48.101 PM | For Operator document | 11/6/2020 2:28:31.362 PM | LWSSystem |

For Operator document

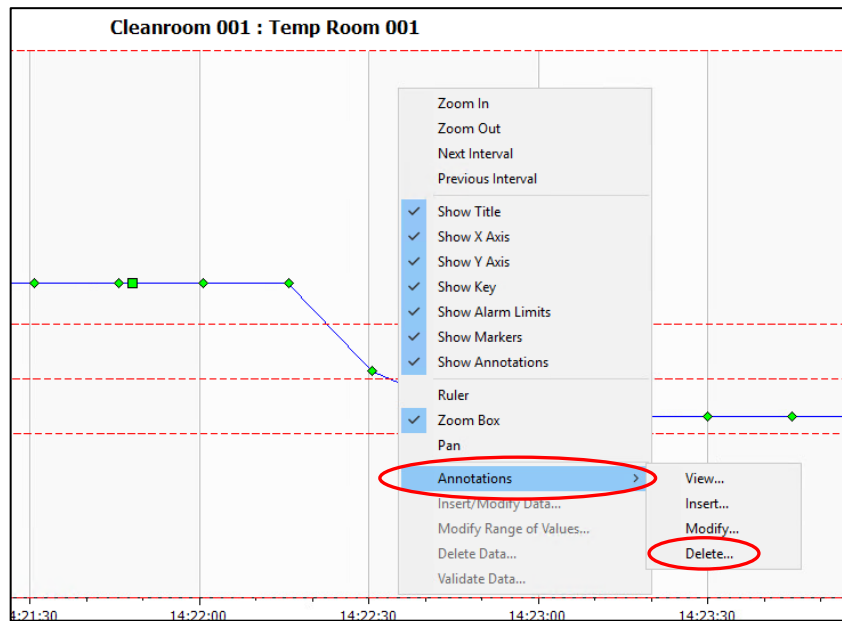
OK Cancel

**Modify Annotations Window**

The user selects the annotation the user wishes to modify and update its text in the bottom window. Click OK when the user has finished modifying the annotation.

## Deleting Annotations

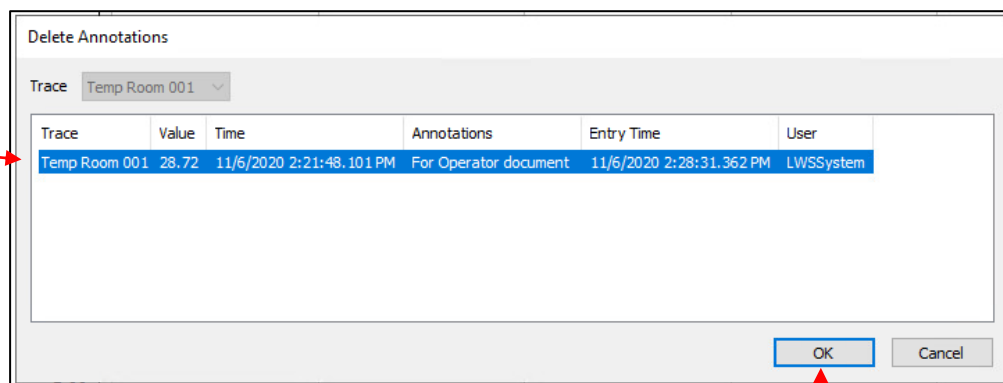
Log in as a Power User or Administrator, click on the listed Trend.



### Trend Drop-down Menu

Right click on the trend to display the Trend Options menu, select Annotations, Delete.

The Delete Annotations window appears, listing all annotations on the current trend.



### Delete Annotations Window

Select the annotation to delete and then click on the OK button.

The window will close and the annotation marker on the graph will be removed.

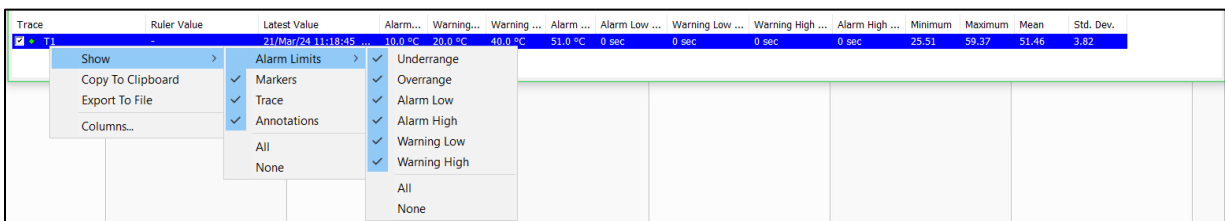
## Printing Trends

When the user views the Trend, the user can print it by clicking on the Print button on the Ribbon.

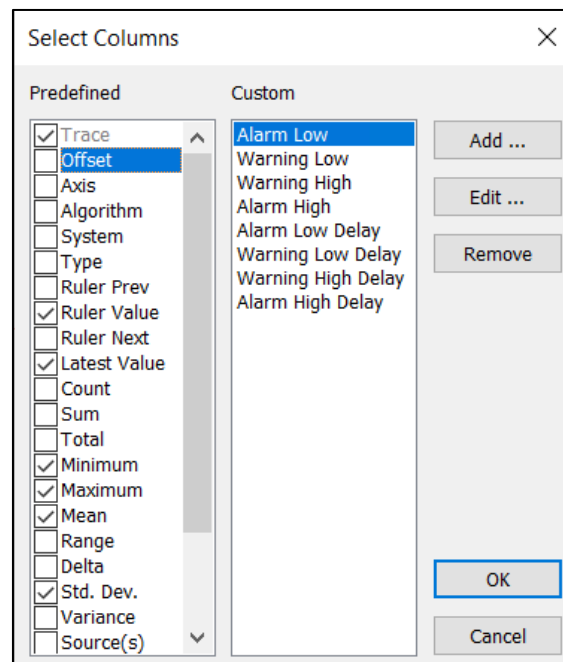
1. Display the Trend.
2. File and then choose Print button.
3. On the default print window that appears, select a printer and click OK.

## Settings on the Trace bar

When you click on the Sensor in the trace bar you have several options in the menu which pops up.



- View alarm limits, markers, trace, and annotations can be made visible or hidden.
- Values in the trend can be copied to the clipboard of Windows and past into third party software like notepad, MS Word, or Excel.
- With “Export to File” the values which are given in the trend can be stored on a local location in tab delimited file.
- With “Columns” other parameters can be made visible or hidden as the already shown alarm limits, delays, and calculations.





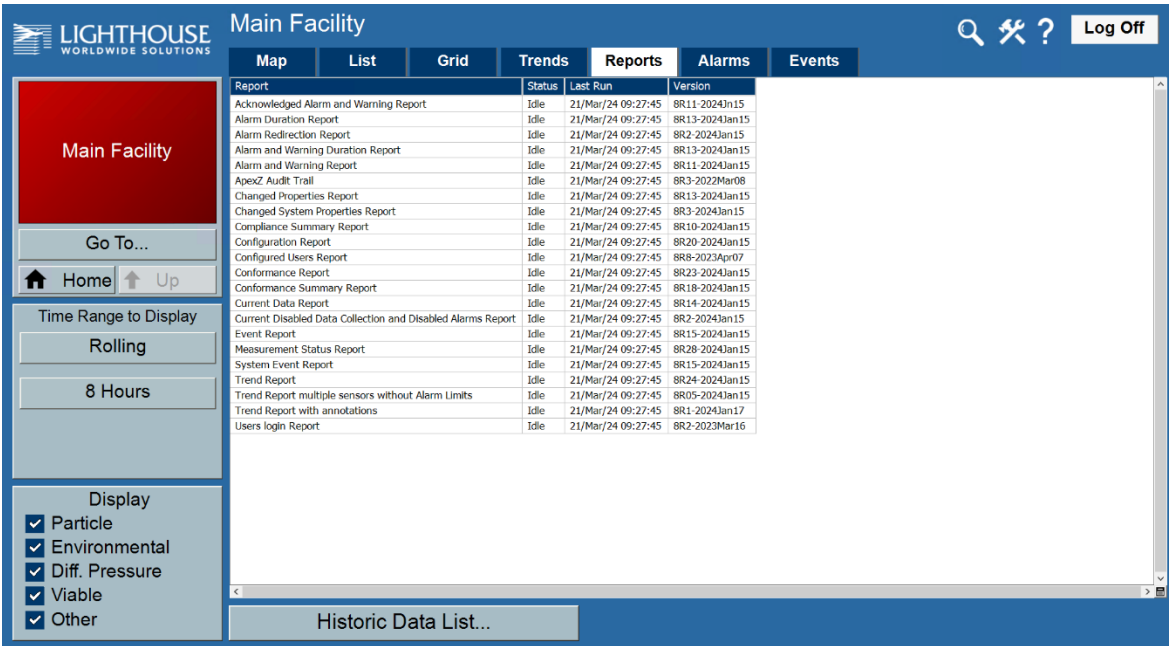
# Standard Reports

## Overview

This chapter describes how to display data in LMS Pharma Standard Reports.

Standard reports provide records for compliance with reporting and auditing requirements in an easy-to-use format. Standard reports can be customized, and all can be displayed on the monitor, printed on a printer, or exported to a variety of file formats.

The Reports tab shows a list of the standard report templates available with LMS Pharma/Professional. This list includes both reports available for the whole system and any reports specific to the area being viewed.



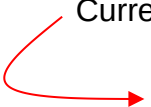
## Reports Tab

## Report Data

Beside the report template, several things affect which data is selected to be displayed on a particular report.

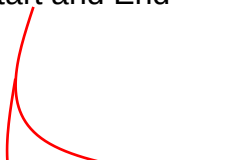
- The current location.
- The start and end date selected on the Time Range Panel.
- Which Data Filters are checked or not checked on the Data Type Panel.
- The Report template itself. Some report templates always report all data in the system, always the current data, while others select data based on the current location, start and end date and/or which data filters are checked.

Current Location



| Main Facility                         |        |                    |                |         |
|---------------------------------------|--------|--------------------|----------------|---------|
| Map                                   | List   | Grid               | Trends         | Reports |
| Report                                | Status | Last Run           | Version        |         |
| Acknowledged Alarm and Warning Report | Idle   | 21/Mar/24 09:27:45 | 8R11-2024Jan15 |         |
| Alarm Duration Report                 | Idle   | 21/Mar/24 09:27:45 | 8R13-2024Jan15 |         |
| Alarm Redirection Report              | Idle   | 21/Mar/24 09:27:45 | 8R2-2024Jan15  |         |
| Alarm and Warning Duration Report     | Idle   | 21/Mar/24 09:27:45 | 8R13-2024Jan15 |         |
| Alarm and Warning Report              | Idle   | 21/Mar/24 09:27:45 | 8R11-2024Jan15 |         |

Set Start and End



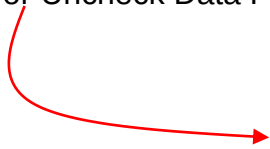
Time Range to Display

Fixed Time

Start : 11/5/2020 2:21:44 PM

End : 11/7/2020 2:21:44 PM

Check or Uncheck Data Filters



Display

☒ Particle

☒ Environmental

☒ Diff. Pressure

☒ Viable

☒ Other

Data Display Filters

## Report Display

When the user clicks on any of the Reports listed, an option “Generate New Report” or “Generate New Dynamic Report” will be displayed, giving the user the option to generate a report.

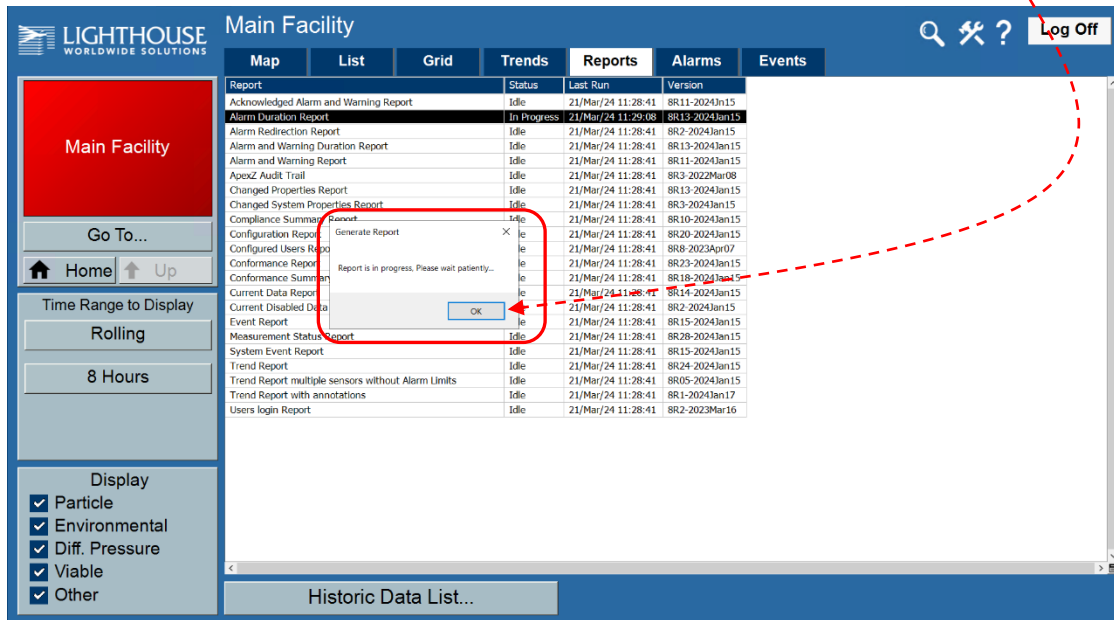
| Report                                                      | Status                      | Last Run           | Version            |
|-------------------------------------------------------------|-----------------------------|--------------------|--------------------|
| Acknowledged Alarm and Warning Report                       | Idle                        | 21/Mar/24 09:27:45 | 8R11-2024Jan15     |
| Alarm Duration Report                                       | Generate New Report         | Idle               | 21/Mar/24 09:27:45 |
| Alarm Redirection Report                                    | Generate New Dynamic Report | Idle               | 21/Mar/24 09:27:45 |
| Alarm and Warning Duration Report                           | Idle                        | 21/Mar/24 09:27:45 | 8R13-2024Jan15     |
| Alarm and Warning Report                                    | Idle                        | 21/Mar/24 09:27:45 | 8R11-2024Jan15     |
| ApexZ Audit Trail                                           | Idle                        | 21/Mar/24 09:27:45 | 8R3-2022Mar08      |
| Changed Properties Report                                   | Idle                        | 21/Mar/24 09:27:45 | 8R13-2024Jan15     |
| Changed System Properties Report                            | Idle                        | 21/Mar/24 09:27:45 | 8R3-2024Jan15      |
| Compliance Summary Report                                   | Idle                        | 21/Mar/24 09:27:45 | 8R10-2024Jan15     |
| Configuration Report                                        | Idle                        | 21/Mar/24 09:27:45 | 8R20-2024Jan15     |
| Configured Users Report                                     | Idle                        | 21/Mar/24 09:27:45 | 8R8-2023Apr07      |
| Conformance Report                                          | Idle                        | 21/Mar/24 09:27:45 | 8R23-2024Jan15     |
| Conformance Summary Report                                  | Idle                        | 21/Mar/24 09:27:45 | 8R18-2024Jan15     |
| Current Data Report                                         | Idle                        | 21/Mar/24 09:27:45 | 8R14-2024Jan15     |
| Current Disabled Data Collection and Disabled Alarms Report | Idle                        | 21/Mar/24 09:27:45 | 8R2-2024Jan15      |
| Event Report                                                | Idle                        | 21/Mar/24 09:27:45 | 8R15-2024Jan15     |
| Measurement Status Report                                   | Idle                        | 21/Mar/24 09:27:45 | 8R28-2024Jan15     |
| System Event Report                                         | Idle                        | 21/Mar/24 09:27:45 | 8R15-2024Jan15     |
| Trend Report                                                | Idle                        | 21/Mar/24 09:27:45 | 8R24-2024Jan15     |
| Trend Report multiple sensors without Alarm Limits          | Idle                        | 21/Mar/24 09:27:45 | 8R05-2024Jan15     |
| Trend Report with annotations                               | Idle                        | 21/Mar/24 09:27:45 | 8R1-2024Jan17      |
| Users login Report                                          | Idle                        | 21/Mar/24 09:27:45 | 8R2-2023Mar16      |

## Report Menu

## Report Actions

### Generate New Report

Generate the report, using the current location, time range and data selected. Once generated, the report is displayed on the screen. While the report is being generated, the status on the list for the report will update from “Idle” to “In Progress”.



### Sample Report Generated and Displayed

While the report is being generated the dialog box displays a caution to the user to wait for the report to complete.

*Do NOT click the 'OK' until the report generation has been completed.*

## Generate New Dynamic Report

Selecting “Generate New Dynamic Report” shows a popup where you can select the room and sensors in the report. This report does not use the current location anymore but the selected room(s)/sensor(s), time range and filter selected.

With the checkboxes behind “Set Filter(s)” the filter of the required sensor(s) in the report can be changed, this will only be updated after selecting the button “Updated Sensor List by Filter”.

In the pulldown “Set Signature on page” a selection can be done if the signature must be hidden, on the last page or even on all pages in the report. Once generated, the report is displayed on the screen.

The screenshot displays the 'Lighthouse Building' software interface. A 'Generate Dynamic Report' dialog box is open, titled 'Generate Dynamic Report: Acknowledged Alarm and Warning Report'. The dialog has several sections:

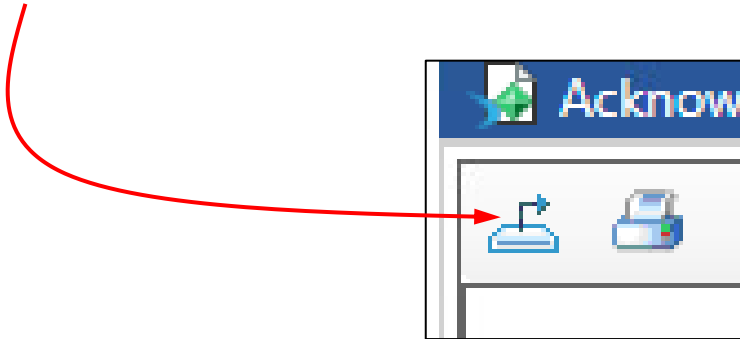
- Set Filter(s):** Checkboxes for Particle, Environmental (checked), Diff. Pressure, Viable, and Other.
- Select Room/Map(s):** A list box containing: Cleanroom, Calibration Cleanroom, LAF Cabinet, Material lock, Personnel lock, First Floor, and Ground Floor.
- Select Sensor(s):** A list box containing: RH Cleanroom, T Cleanroom, RH Material lock, T Material lock, RH Personnel lock, T Personnel lock, RH Air IN, RH Air OUT, RH Conference Room, T Air IN, T Air OUT, T Conference Room, RH Calibration LAB 12, RH Calibration LAB 2, RH Calibration LAB 3, RH Reception, T Calibration LAB 1, and T Calibration LAB 2.
- Update SensorList by Filter:** A button.
- Set Signature on page:** A dropdown menu set to 'All'.
- Buttons:** 'Generate Report' and 'Cancel'.

The background interface shows the 'Reports' tab selected, displaying a table with columns 't Run' and 'Version'. The table lists various reports with timestamps and version numbers.

## Dynamic Report

## Export the Report

Click the Export button as shown in the left margin.



**Export Icon Button**

Export options available in PDF or XLS file formats.

## Creating Report Templates

Report templates for LMS Pharma are created using SAP Crystal Reports 2016 or 2020.

The user may display, print, and export the standard reports provided with LMS Pharma/Professional free of charge; no additional software is required. However, to create a new report template or modify the standard report templates, the user will need to purchase, install, and run the SAP Crystal Reports 2016 or 2020 Designer.

## Printing Reports

When a report is displayed the user can print it by clicking on the Print button on the toolbar.

1. Display the Standard Report.
2. Click the Print button.
3. On the default print window that appears, select a printer, and click OK.

## Historic Data List

### Overview

Historic data lists allow the user to view data in a tabular, Excel like format and can be used for data review.

This chapter describes how to display historic data lists in LMS Pharma.

### Data List View

#### Historic Data List Display

To display a Historic Data List, click on the Reports tab and then on the Historic Data List button at the bottom of the Reports display area.

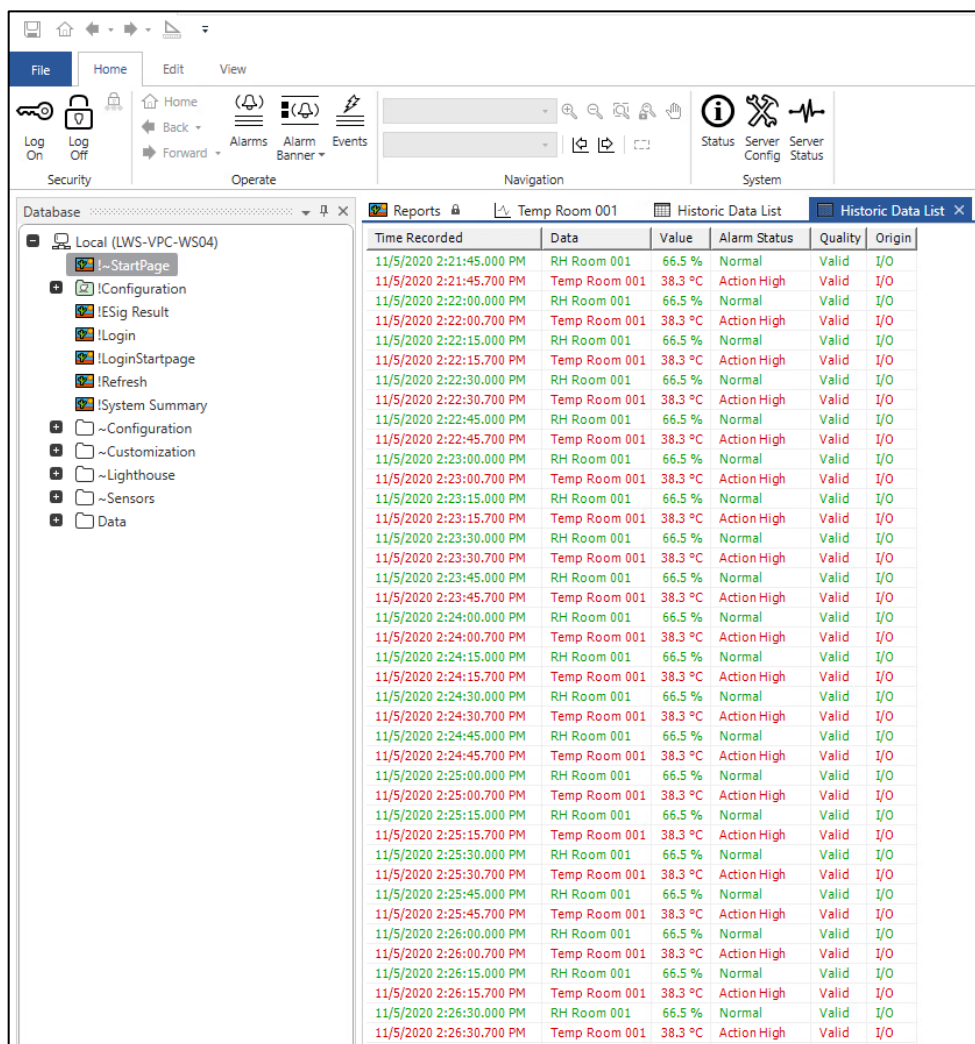
The screenshot shows the Lighthouse Main Facility interface. The top navigation bar includes tabs for Map, List, Grid, Trends, Reports, Alarms, and Events. The Reports tab is selected, and a red arrow points to it. The Reports tab displays a list of reports with columns for Report, Status, Last Run, and Version. The list includes reports such as Acknowledged Alarm and Warning Report, Alarm Duration Report, Alarm Redirection Report, Alarm and Warning Duration Report, Alarm and Warning Report, Apex2 Audit Trail, Changed Properties Report, Changed System Properties Report, Compliance Summary Report, Configuration Report, Configured Users Report, Conformance Report, Conformance Summary Report, Current Data Report, Current Disabled Data Collection and Disabled Alarms Report, Event Report, Measurement Status Report, System Event Report, Trend Report, Trend Report multiple sensors without Alarm Limits, Trend Report with annotations, and Users login Report. A button labeled 'Historic Data List...' is visible at the bottom of the Reports display area.

| Report                                                      | Status | Last Run           | Version        |
|-------------------------------------------------------------|--------|--------------------|----------------|
| Acknowledged Alarm and Warning Report                       | Idle   | 21/Mar/24 09:27:45 | BR11-2024Jan15 |
| Alarm Duration Report                                       | Idle   | 21/Mar/24 09:27:45 | BR13-2024Jan15 |
| Alarm Redirection Report                                    | Idle   | 21/Mar/24 09:27:45 | BR2-2024Jan15  |
| Alarm and Warning Duration Report                           | Idle   | 21/Mar/24 09:27:45 | BR13-2024Jan15 |
| Alarm and Warning Report                                    | Idle   | 21/Mar/24 09:27:45 | BR11-2024Jan15 |
| Apex2 Audit Trail                                           | Idle   | 21/Mar/24 09:27:45 | BR3-2023Mar08  |
| Changed Properties Report                                   | Idle   | 21/Mar/24 09:27:45 | BR13-2024Jan15 |
| Changed System Properties Report                            | Idle   | 21/Mar/24 09:27:45 | BR3-2024Jan15  |
| Compliance Summary Report                                   | Idle   | 21/Mar/24 09:27:45 | BR10-2024Jan15 |
| Configuration Report                                        | Idle   | 21/Mar/24 09:27:45 | BR20-2024Jan15 |
| Configured Users Report                                     | Idle   | 21/Mar/24 09:27:45 | BR8-2023Apr07  |
| Conformance Report                                          | Idle   | 21/Mar/24 09:27:45 | BR23-2024Jan15 |
| Conformance Summary Report                                  | Idle   | 21/Mar/24 09:27:45 | BR18-2024Jan15 |
| Current Data Report                                         | Idle   | 21/Mar/24 09:27:45 | BR14-2024Jan15 |
| Current Disabled Data Collection and Disabled Alarms Report | Idle   | 21/Mar/24 09:27:45 | BR2-2024Jan15  |
| Event Report                                                | Idle   | 21/Mar/24 09:27:45 | BR15-2024Jan15 |
| Measurement Status Report                                   | Idle   | 21/Mar/24 09:27:45 | BR28-2024Jan15 |
| System Event Report                                         | Idle   | 21/Mar/24 09:27:45 | BR15-2024Jan15 |
| Trend Report                                                | Idle   | 21/Mar/24 09:27:45 | BR24-2024Jan15 |
| Trend Report multiple sensors without Alarm Limits          | Idle   | 21/Mar/24 09:27:45 | BR05-2024Jan15 |
| Trend Report with annotations                               | Idle   | 21/Mar/24 09:27:45 | BR1-2024Jan17  |
| Users login Report                                          | Idle   | 21/Mar/24 09:27:45 | BR2-2023Mar16  |

Main Facility Screen – Reports Tab Selected

## Historic Data List button

Historic Data Lists are static. The Historical Data list displayed will contain all data points recorded for the currently viewed area during the time range specified in the Time Range panel.



The screenshot shows the Lighthouse software interface. The top navigation bar includes buttons for File, Home, Edit, and View. Below this are icons for Log On, Log Off, Home, Back, Forward, Alarms, Alarm Banner, Events, and a search icon. The main area is divided into a left sidebar and a right pane. The left sidebar shows a tree view of the system structure, including Local (LWS-VPC-WS04), StartPage, Configuration, ESig Result, Login, LoginStartpage, Refresh, System Summary, Configuration, Customization, Lighthouse, Sensors, and Data. The right pane displays the 'Historic Data List' for 'Temp Room 001'. The table below shows the data points recorded.

| Time Recorded            | Data          | Value   | Alarm Status | Quality | Origin |
|--------------------------|---------------|---------|--------------|---------|--------|
| 11/5/2020 2:21:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:21:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:00.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:15.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:30.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:00.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:23:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:15.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:23:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:30.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:23:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:23:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:00.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:24:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:15.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:24:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:30.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:24:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:24:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:00.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:25:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:15.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:25:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:30.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:25:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:25:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:26:00.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:26:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:26:15.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:26:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:26:30.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:26:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |

## Historic Data List View

Only selected Data Types in the Data Type panel will be displayed in the Historic Data List. Each line on the Historic Data List is colored according to the alarm status of the data. Since the data is not current data, the data displayed on the Historic Data List window will not blink if the data was an unacknowledged alarm, warning or any other event requiring acknowledgement.

## Historic Data List Actions

If the user clicks on an entry displayed on the Historic Data List, a menu will open giving the user the following options.

### Sort Criteria

Data shown on the Historic Data List is sorted by date, by default, but may be re-sorted by different criteria. To re-sort the data, click on a row on the Historic Data List to display the list's options menu.

Select Sort from the menu and on the Sort window that appears, select the columns to sort on and click OK. The Historic Data List will update to reflect the sort criteria.

The image illustrates the process of sorting the Historic Data List. It shows a table of data, a context menu with 'Sort...' selected, a 'Sort Order' dialog box where 'Alarm Status' is chosen for ascending sort, and the resulting sorted table.

| Time Recorded            | Data          | Value   | Alarm Status | Quality | Origin |
|--------------------------|---------------|---------|--------------|---------|--------|
| 11/5/2020 2:21:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:21:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:00.000 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:15.000 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:30.000 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:45.000 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:00.000 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:15.000 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:30.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |

| Time Recorded            | Data          | Value   | Alarm Status | Quality | Origin |
|--------------------------|---------------|---------|--------------|---------|--------|
| 11/5/2020 2:21:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:24:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:00.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:15.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:30.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:25:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |

### Sorting Historic Data List windows

#### Data Type and Time Range Criteria

The Historic Data List that is shown used the time range specified in the Time Range Panel and the filters specified in the Data Type Panel to select the data that was displayed.

To change which data is displayed, change the values in the Time Range Panel or selected on the Data Type Panel. Once changes have been made to either the Data Type Panel or Time Range Panel, the Historic Data List will update automatically.

## Printing Data Tables

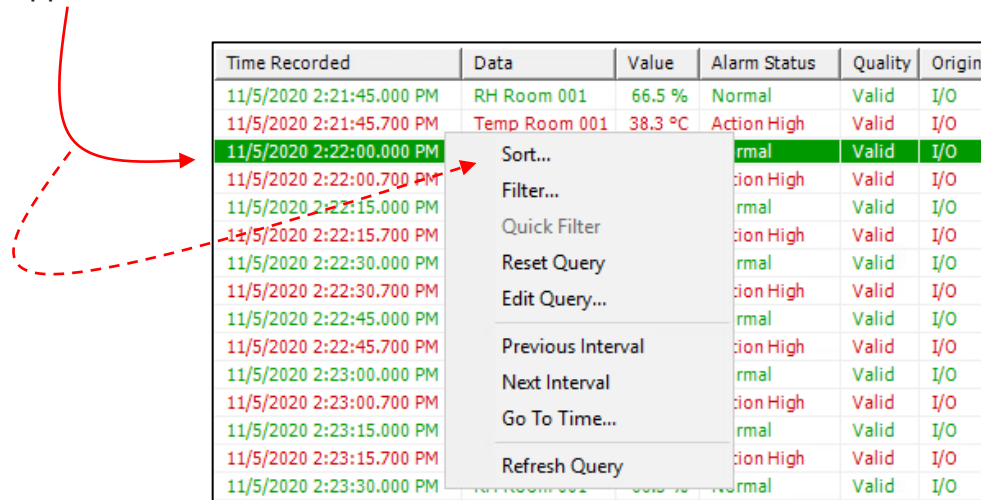
When a Historic Data List is displayed the user can print it by clicking on the Print button on the toolbar. To print the list the user will do the following.

1. Display a Historic Data List.
2. Click on the Print button.
3. Select the desired printer on the default print window and click OK.

## General List Features

The Historical Data list has several additional features that allow users to sort or filter data. These same features are available on the Historical list that can be displayed from the List view (List tab) as well.

For example, if the user clicks on an item in the Historic Data List, the following menu appears.



| Time Recorded            | Data          | Value   | Alarm Status | Quality | Origin |
|--------------------------|---------------|---------|--------------|---------|--------|
| 11/5/2020 2:21:45.000 PM | RH Room 001   | 66.5 %  | Normal       | Valid   | I/O    |
| 11/5/2020 2:21:45.700 PM | Temp Room 001 | 38.3 °C | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:00.000 PM |               |         | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:00.700 PM |               |         | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:15.000 PM |               |         | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:15.700 PM |               |         | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:30.000 PM |               |         | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:30.700 PM |               |         | Action High  | Valid   | I/O    |
| 11/5/2020 2:22:45.000 PM |               |         | Normal       | Valid   | I/O    |
| 11/5/2020 2:22:45.700 PM |               |         | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:00.000 PM |               |         | Normal       | Valid   | I/O    |
| 11/5/2020 2:23:00.700 PM |               |         | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:15.000 PM |               |         | Normal       | Valid   | I/O    |
| 11/5/2020 2:23:15.700 PM |               |         | Action High  | Valid   | I/O    |
| 11/5/2020 2:23:30.000 PM |               |         | Normal       | Valid   | I/O    |

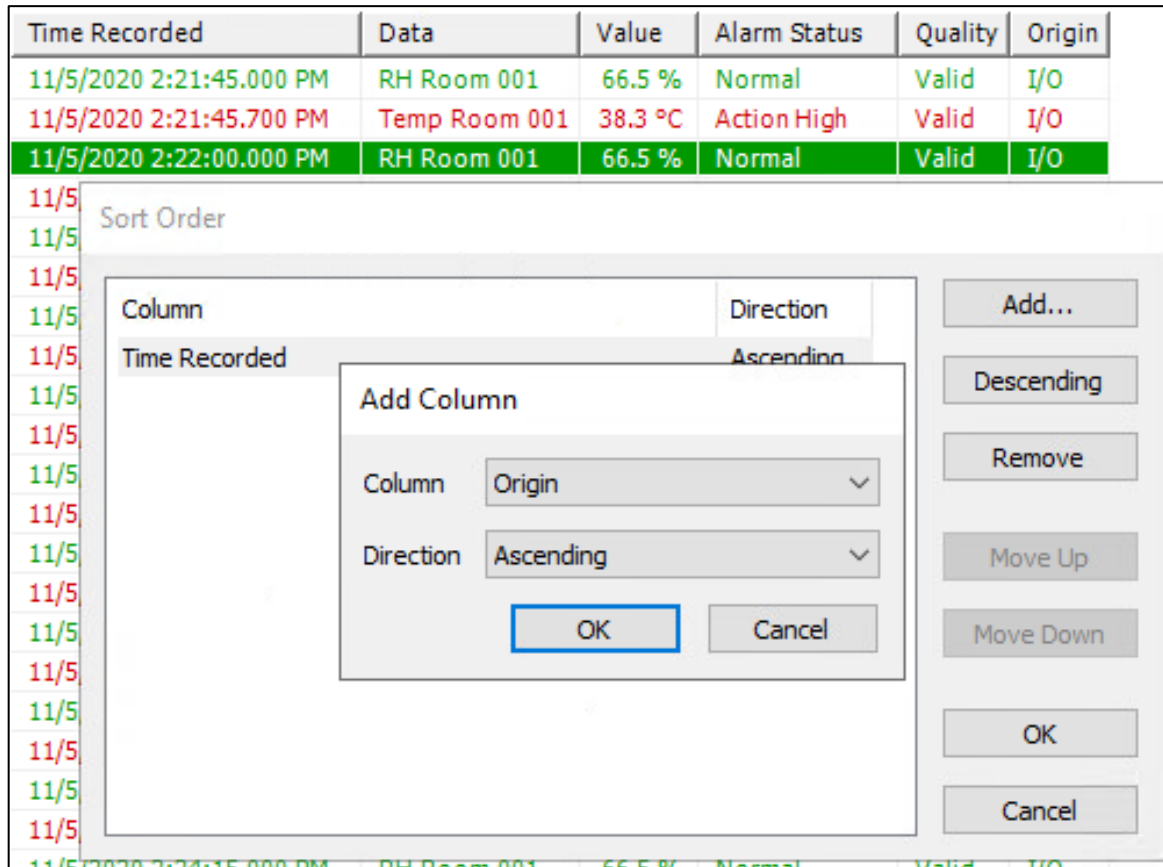
Sort...  
Filter...  
Quick Filter  
Reset Query  
Edit Query...  
Previous Interval  
Next Interval  
Go To Time...  
Refresh Query

**Data Status Sensor Menu**

This menu contains the following options:

### Sort

Enables the user to enter custom sorting criteria (such as sorting on 2 or more columns).



Sort Order Windows

**Filter**

Enables the user to enter custom filter criteria to limit the data shown in the list. This filter is temporary. When the user leaves and returns to the list, all data will once again be displayed.

**Quick Filter**

Enables the user to quickly filter the list based on the value in the cell (row and column) the mouse is on when the user brings up the menu. The list will be filtered to only include rows that have the same value for that column. This filter is temporary. When the user leaves and returns to the list, all data will once again be displayed.

**Reset Query**

Disables any filters the user applied with Filter or Quick Filter.

**Edit Query**

Edit manually the query to view required information from the database.

**Refresh Query**

Re-checks the data and updates in the list, adding (or removing) rows as appropriate.

**When the user selects Refresh Query from a sensor menu:**

- All lists will update automatically to display any changes to all the rows in the list.
- All the data values and status of all the points will continue to update automatically after the Refresh Query.
- If the user adds or removes any new data points in the area, however, select Refresh Query from the menu for the new point to show the changes.

**Print (File menu on Ribbon)**

Prints the contents of the list. The results of these printouts contain all the data in the list, formatted simply. For custom formatted printouts, please see the chapter on Reports.

**Next Interval:**

Change the time range of data shown in the list to start at the current end date and continue forward for the same period currently shown in the list.

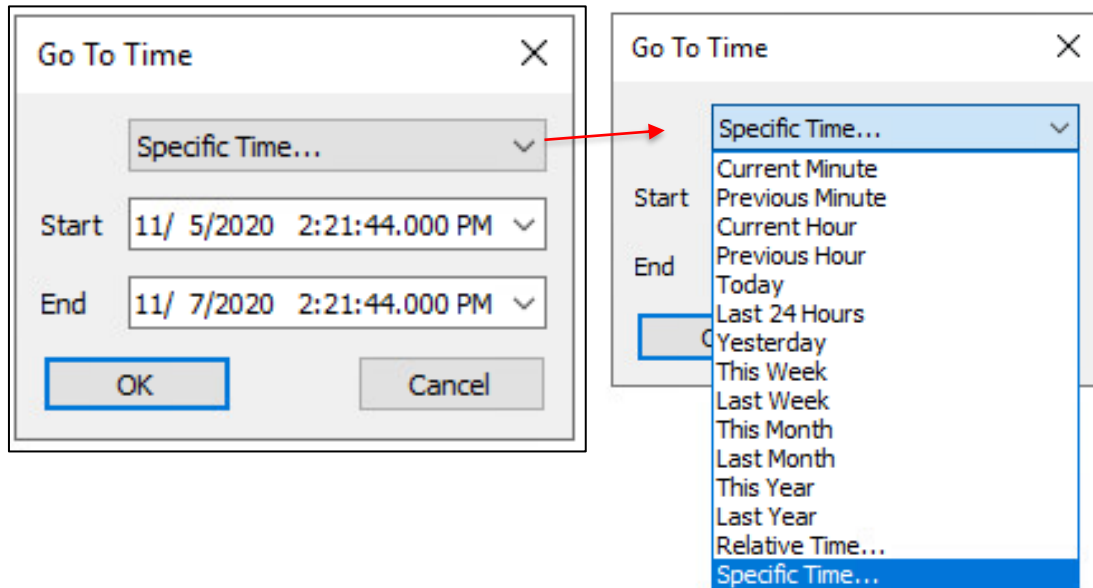
For example, if the list is currently showing data from 12:00am to 1:00am on a specific date, selecting Next Interval will change the list to display data from 1:00am to 2:00am on the same date.

**Previous Interval:**

Previous Interval goes backward instead of forward. For example, if the list is currently showing data from 12:00am to 1:00am on a specific date, selecting Previous Interval will change the list to display data from 11:00pm to 12:00am on the previous date.

**Go To Time:**

Enables the user to enter a new date range for the list. This can be a specific date and time or any one of several date and time predefined ranges.

**Go To Time Window and Specific Time Pull Down**

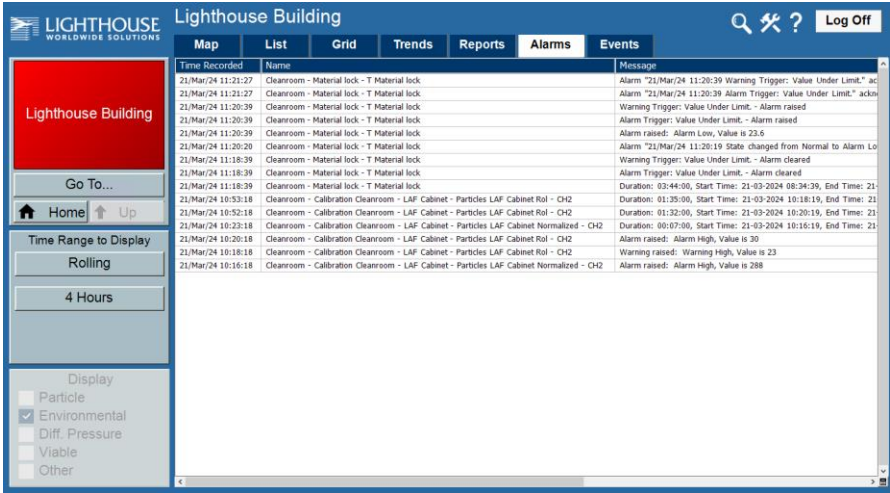
Selecting Next Interval, Previous Interval or Go To Time does not change the contents of the Time Range Panel so they will not change the data shown in any other tab.

The changes made using Next Interval, Previous Interval or Go To Time apply only to the current list they were selected on. The changes are temporary and will not be used the next time the user returns to the same tab.



## Alarms and Events Tab

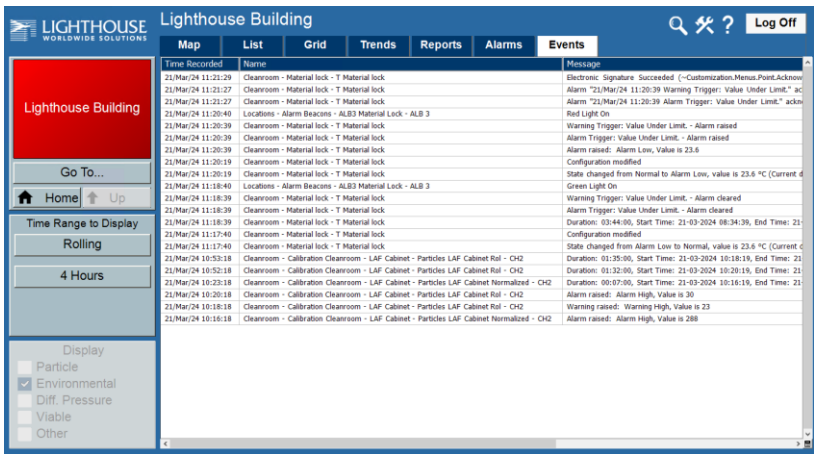
To display a list of historical alarms and acknowledgements, click on the “Alarms” tab. The view area of LMS Pharma will update and show a list of all the historical alarms and alarm acknowledgements, for the current location and entered time range, sorted by time.



### Alarms Tab

The “Events” view shows a list of historical events for all objects in the area being viewed. This includes events related to alarms (point going into alarm and coming out of alarm) as well as errors, configuration changes and renaming of points. The alarms and events listed on the “Event” Tab are sorted by date, default, but may be re-sorted.

On the highest level of the tree structure the historic events for the complete database are shown. For example, users who are logged in, changes on users, templates, and communication issues with cabinets.



### Event Tab

When clicking with left mouse button on one of the alarms or events or in an empty white part of the mimic a menu function is shown.

| Time Recorded      | Name                                                                |
|--------------------|---------------------------------------------------------------------|
| 21/Mar/24 11:21:29 | Cleanroom - Material lock - T Material lock                         |
| 21/Mar/24 11:21:27 | Cleanroom - Material lock - T Material lock                         |
| 21/Mar/24 11:21:27 | Cleanroom - Material lock - T Material lock                         |
| 21/Mar/24 11:20:40 | Locations - Alarm Beacons - ALB3 Material Lock - ALB 3              |
| 21/Mar/24 11:20:39 | Cleanroom - Material lock - T Material lock                         |
| 21/Mar/24 11:20:39 | Cleanroom - Material lock - T Material lock                         |
| 21/Mar/24 11:20:39 | Cleanroom - Material lock - T Material lock                         |
| 21/Mar/24 11:20:19 | Cleanr                                                              |
| 21/Mar/24 11:20:19 | Cleanr                                                              |
| 21/Mar/24 11:18:40 | Locatic                                                             |
| 21/Mar/24 11:18:39 | Cleanr                                                              |
| 21/Mar/24 11:18:39 | Cleanr                                                              |
| 21/Mar/24 11:18:39 | Cleanr                                                              |
| 21/Mar/24 11:17:40 | Cleanr                                                              |
| 21/Mar/24 11:17:40 | Cleanr                                                              |
| 21/Mar/24 10:53:18 | Cleanr                                                              |
| 21/Mar/24 10:52:18 | Cleanr                                                              |
| 21/Mar/24 10:23:18 | Cleanr                                                              |
| 21/Mar/24 10:20:18 | Cleanroom - Calibration Cleanroom - LAF Cabinet - Particles LAF Cab |
| 21/Mar/24 10:18:18 | Cleanroom - Calibration Cleanroom - LAF Cabinet - Particles LAF Cab |
| 21/Mar/24 10:16:18 | Cleanroom - Calibration Cleanroom - LAF Cabinet - Particles LAF Cab |

### Filter on Alarms or Events Tab

Most of the filter functions are described in the previous chapter on Display Historic Data list. An extra function in the menu of Alarms and Events tab is Insert Comment”.

#### Insert Comment:

This function is to add manually an extra event on the same date and time of the event/alarms which are selected (logbook).

Insert Comment

OK

Cancel

### Insert Comment

## Process Tab

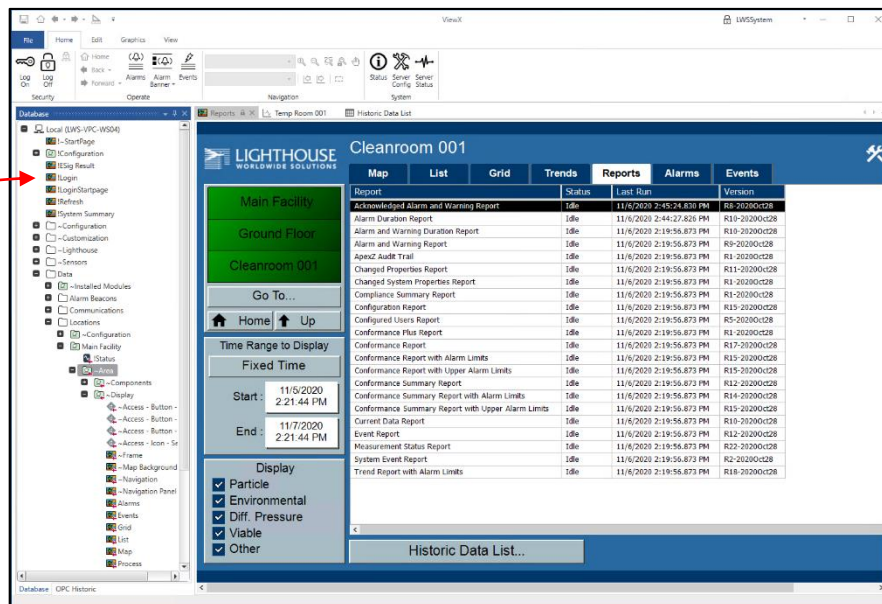
The final tab on the LMS Pharma/Professional view area is the Process View tab. The Process View tab contains information and data customized for the specific customer. For more details about the Process View please see the LMS Pharma/Professional Administrators manual.

## Administration and System Set Up

This chapter contains some basic Administrator and system concepts and details. For more details about LMS Pharma/Professional administration, please see the LMS Pharma/Professional Administrators Manual.

### Administrator's Tasks

When logged into the ViewX application as an Administrator, a side panel and the Database Tree are available. This tree shows details about the structure of the LMS Pharma/Professional application and database.



### LMS Pharma/Professional Database Tree

#### Database Tree

The Administrator can perform configuration tasks from the Database Tree in the ViewX application, including adding or removing sensors, enabling, or disabling sensors or alarms, changing alarm limits, and administering user accounts.

For more details about configuring LMS Pharma/Professional sensors and alarms and managing user accounts, please see the LMS Pharma/Professional Administrators Manual.

## Users and Group Accounts

The LMS Pharma/Professional Administrators Manual contains more information regarding user and group accounts. Below is a general overview.

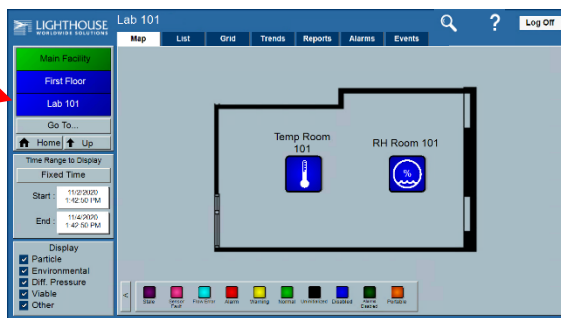
LMS Pharma/Professional has three pre-defined User Groups:

- Administrators
- Power Users
- Operators

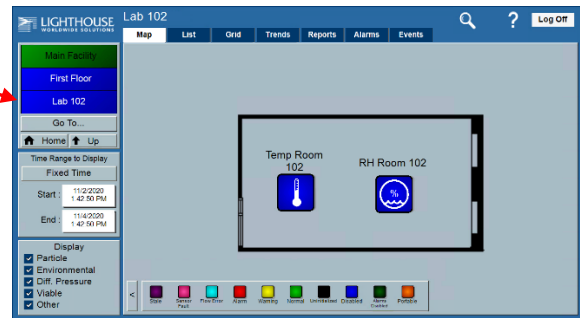
### Operator User Group

In the LMS Pharma below example there are three Operator user groups added for different department locations, user accounts: Operator A, Operator C, Operator D.

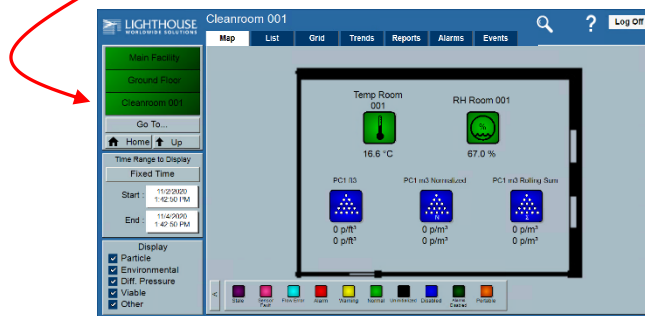
Lab 1: Operator A



Lab 2: Operator C



Cleanroom 1: Operator D



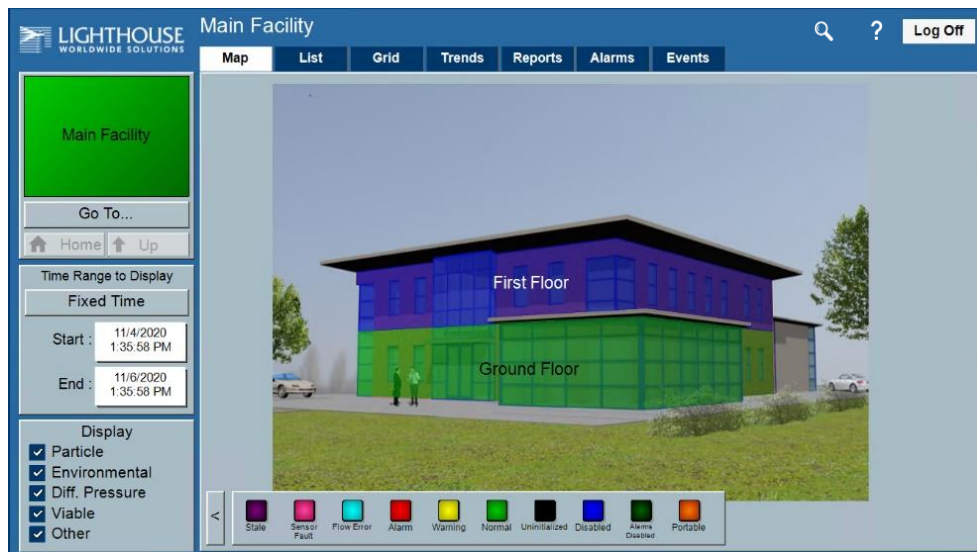
### Sample Operator Users

Operator user group accounts:

- **CAN:** View data at the specific locations for their user group.
- **CANNOT:** Acknowledge alarms.

## Power User Group

Power User accounts are allowed to view and access more locations and features than Operator User accounts.



**Power User Main Window**

Power User Group accounts **CAN**:

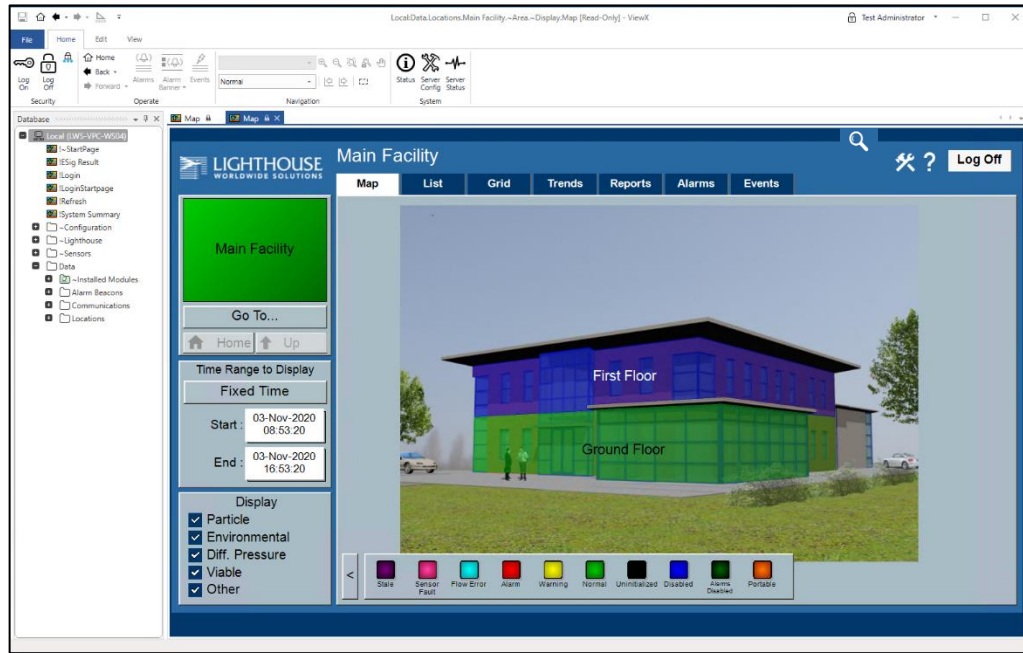
- Acknowledge alarms
- Enable alarms
- Disable alarms

Power User Group account **CANNOT**:

- Change alarm limits
- Enable or Disable points
- Add or remove users.

## Administrator Group

Members of the Administrator User Group have the most rights granted to LMS Pharma/Professional applications.



**LMS Pharma Administrator Main Window**

**When logged into the ViewX application as an Administrator:**

- The main screen (showing the whole facility) is displayed
- The database tree is shown on the left and includes User and Group folder(s).

**Administrator Accounts:**

- Have the maximum permissions granted to facilities
- Can change the access permissions for user groups or individual users
- Can add, remove, and change user groups and other users
- Can add, remove, and change map levels and sensors
- Can acknowledge alarms, enable, and disable alarms, change alarm limits, and enable and disable points.



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[techsupport@golighthouse.com](mailto:techsupport@golighthouse.com)  
[www.golighthouse.com](http://www.golighthouse.com)